

CN

Canadian
National
Railways

AR40

Chemins de fer
Nationaux
du Canada

Annual Report

Rapport annuel

1973



Our cover was created by noted Eskimo artist Pitseolak of Cape Dorset, Baffin Island. The illustration first appeared in the CN corporate ad series in major Canadian publications through 1973 and 1974. It tells of CN's involvement with the Canadian North, with particular reference to CN Telecommunications. The microwave repeater tower is welcomed by the native peoples as one stage in the network that links them with the rest of the world.

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Notre couverture est l'oeuvre de l'artiste esquimaude Pitseolak, de Cap Dorset dans l'île Baffin. Cette peinture, qui illustre depuis 1973 certaines de nos annonces publicitaires dans nombre de revues canadiennes, témoigne de l'importance qu'attache le CN au Grand Nord, particulièrement en ce qui touche les télécommunications. L'établissement de cet émetteur-relai constitue, pour la population indigène, une étape dans la construction d'un réseau qui doit la relier au reste du monde.

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Highlights

Financial Results

	1973 In millions of dollars	Increase or (Decrease) Percent
Gross revenues	\$ 1,566.7	11.4
Railway operating revenues	1,400.8	11.4
Net railway operating income	25.7	7.5
Other income	22.8	(6.6)
Interest on debt	69.8	5.6
Deficit	21.3	19.7

Traffic

	1973	Increase or (Decrease) Percent
Revenue ton miles — carload (millions)	62,174	(0.3)
Revenue per ton mile — carload	¢ 1.600	6.2
Express shipments handled (thousands)	8,206	(7.7)
Revenue piggyback trailers handled	62,846	(4.8)
Containers handled — import/export (20-ft equivalent units)	165,040	9.9
Revenue passenger miles (millions)	1,194	(22.7)
Revenue per passenger mile	¢ 4.659	7.8

Tableau synoptique

Résultats

	1973 En millions de dollars	% d'augmentation ou de (diminution)
Recettes brutes	\$ 1,566.7	11.4
Recettes de l'exploitation ferroviaire	1,400.8	11.4
Revenu net de l'exploitation ferroviaire	25.7	7.5
Autres revenus	22.8	(6.6)
Intérêts de la dette	69.8	5.6
Déficit	21.3	19.7

Trafic

	1973	% d'augmentation ou de (diminution)
Tonnes-milles commerciales — wagons complets (en millions)	62,174	(0.3)
Recette par tonne-mille — wagons complets	¢ 1.600	6.2
Envois de messageries (en milliers)	8,206	(7.7)
Remorques rail-route commerciales	62,846	(4.8)
Containers import-export (en unités de 20 pieds)	165 040	9.9
Voyageurs-milles taxés (en millions)	1,194	(22.7)
Recette par voyageur-mille	¢ 4.659	7.8

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Containers from overseas arrive at modern terminals in Canadian ports on both coasts for shipment inland by rail. CN's international and domestic container handlings increased in 1973.

D'outre-mer les containers affluent vers les ports des deux côtes canadiennes, attendant d'être acheminés par rail. L'année 1973 marque pour le CN une augmentation du trafic containers tant international qu'intérieur.

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Kingston
(jusqu'au 16 janvier 1974)

To The Honourable, The Minister of Transport,
Ottawa.

The Board of Directors submits hereunder the
Annual Report of Canadian National Railways for
the year 1973.

À l'honorable Ministre des Transports,
Ottawa.

Le Conseil d'administration a l'honneur de vous
présenter le rapport des Chemins de fer Nationaux
du Canada pour l'année 1973.

Financial Review

General

Revenues from the various operations of Canadian National reached record heights in 1973 and the net income before interest on debt — or the “operating profit” of the Company — was \$48.5 million, slightly more than in the previous year.

The following statement compares the financial results for 1973 with those of previous years and demonstrates the improvement in the operating profit which has been achieved since 1960.

	In Millions		En millions			Recettes de l'exploitation ferroviaire
	1973	1972	1970	1965	1960	
Railway operating revenues	\$1,400.8	\$1,257.1	\$1,042.3	\$827.3	\$663.2	Dépenses de l'exploitation ferroviaire
Railway operating expenses	1,375.1	1,233.2	1,027.6	817.4	681.7	
Net railway operating income	25.7	23.9	14.7	9.9	(18.5)	Revenu net de l'exploitation ferroviaire
Other income	22.8	24.4	31.1	18.6	12.0	Autres revenus
Net income before interest on debt	48.5	48.3	45.8	28.5	(6.5)	Revenu net avant intérêts de la dette
Net interest on debt	69.8	66.1	75.5	61.9	61.0	Intérêts de la dette
Deficit	\$ 21.3	\$ 17.8	\$ 29.7	\$ 33.4	\$ 67.5	Déficit

The over-all financial result for 1973 was adversely affected by revenue losses due to the railway strike of July-September and by the costs of wage awards and pension improvements. Without these factors the progressive improvement in the over-all financial position would have continued into 1973 and the Company would have moved into a surplus position.

Net interest on long-term debt amounted to \$69.8 million, an increase of \$3.7 million over 1972. The increase was due to higher rates of interest throughout 1973 on loans from the Government of Canada.

As shown in the above table, CN's railway operating revenues reached a record of \$1.4 billion in 1973.

Situation financière

Vue d'ensemble

L'exercice 1973 s'est caractérisé par des recettes sans précédent, et le revenu net avant intérêts de la dette — ou bénéfice d'exploitation — s'est élevé à \$48.5 millions, ce qui dépasse légèrement le chiffre de l'année dernière.

Le tableau comparatif suivant témoigne de l'amélioration du bénéfice d'exploitation depuis 1960.

Deux facteurs ont pesé sur le résultat d'ensemble: la perte de recettes due à la grève du rail entre juillet et septembre, et l'augmentation des charges salariales et des prestations de retraite. Sans ces facteurs, la situation financière aurait continué de s'améliorer et un bénéfice aurait vraisemblablement été réalisé.

Les intérêts de la dette à long terme s'établissent à \$69.8 millions, dépassant de \$3.7 millions ceux de l'an dernier. Cette augmentation correspond à la majoration des intérêts sur les emprunts obtenus du gouvernement du Canada.

Le tableau ci-dessus indique que les recettes de l'exploitation ferroviaire ont atteint, en 1973, le chiffre record de \$1.4 milliard.

Six Sectors. For purposes of financial reporting it is appropriate to divide the major operations of the Company into six revenue-producing sectors. Net returns on a sector basis are compared in the following table:

	1973 In Millions	1972 In Millions	Better/(Worse) Amount	Better/(Worse) %
Canadian Rail	\$21.3	\$28.6	\$ (7.3)	(25.5)
U.S. Rail	6.5	(6.6)	13.1	—
Telecommunications	17.0	17.0	—	—
Hotels	4.4	3.2	1.2	37.5
Separately operated truckling companies	3.4	2.5	0.9	36.0
All other income (expense)	(4.1)	3.6	(7.7)	—
Net income before interest on debt	\$48.5	\$48.3	\$ 0.2	0.4

Canadian Rail

Operating results of the Canadian Rail sector are summarized in the following table:

	1973 In Millions	1972 In Millions	Increase/ (Decrease) Amount	Increase/ (Decrease) %
Railway operating revenues	\$1,196.1	\$1,093.2	\$102.9	9.4
Railway operating expenses	1,174.8	1,064.6	110.2	10.4
Net railway operating income	\$ 21.3	\$ 28.6	\$ (7.3)	(25.5)

Six secteurs. On a jugé utile, pour l'établissement du rapport financier, de diviser les principales activités du CN en six secteurs producteurs de recettes. Le tableau comparatif suivant porte sur le rendement net de chacun d'eux.

	1973 en millions	1972 en millions	Augmentation (diminution) %
Lignes canadiennes	\$21.3	\$28.6	\$ (7.3) (25.5)
Lignes des États-Unis	6.5	(6.6)	13.1 —
Télécommunications	17.0	17.0	— —
Hôtels	4.4	3.2	1.2 37.5
Entreprises autonomes de camionnage	3.4	2.5	0.9 36.0
Autres revenus (dépenses)	(4.1)	3.6	(7.7) —
Revenu net avant intérêts de la dette	\$48.5	\$48.3	\$ 0.2 0.4

Lignes canadiennes

Les résultats de l'exploitation des lignes canadiennes sont résumés dans le tableau qui suit:

	1973 en millions	1972 en millions	Augmentation (diminution) %
Recettes de l'exploitation ferroviaire	\$1 196.1	\$1 093.2	\$102.9 9.4
Dépenses de l'exploitation ferroviaire	1 174.8	1 064.6	110.2 10.4
Revenu net de l'exploitation ferroviaire	\$ 21.3	\$ 28.6	\$ (7.3) (25.5)

Revenues of \$1,196.1 million represent an improvement of 9.4% over 1972. Distribution of revenues and a comparison with 1972 are given in the following table:

	1973	1972	Increase/ (Decrease)		1973 In Millions	1972 In Millions	Augmentation (diminution) %
			Amount	%			
Carload freight services	\$ 889.0	\$ 829.0	\$ 60.0	7.2			
Express and Intermodal services	152.4	150.9	1.5	1.0			
Passenger services	55.4	66.6	(11.2)	(16.8)			
All other services	5.7	6.0	(0.3)	(5.0)			
Payments under the Railway Act	93.6	40.7	52.9	—			
Total	\$1,196.1	\$1,093.2	\$102.9	9.4			

Carload freight revenues (shown above) included \$27.0 million as an amount receivable from the government to compensate for revenue foregone due to not implementing general rate increases in 1973.

Tonnage increases were recorded for three of the major commodity groups served by carload freight services, i.e., Forest Products, up 4.3%; Vehicles, Machines and Manufactured Products, up 6.0%; Fuels and Chemicals, up 8.9%.

Decreases in tonnage were recorded for Ores, Minerals and Metals, down 1.4%, and for Agriculture and Food Products distributed into Grain, down 20.0%, and Non-Grain, down 5.1%.

The volume of grain handled in the calendar year was 356,490,000 bushels. This represents 177,015 carloads of which 95,249 carloads went to Thunder Bay, 63,796 to west coast ports, 8,534 to the port of Churchill, and 9,436 to interior terminals.

Revenues from Express and Intermodal services of Canadian Rail increased by \$1.5 million or 1.0% over 1972. Revenues were adversely affected by the CN strike and a dock strike at Halifax, and this tended to mask the generally upward trend of the express and intermodal business. In 1972 the revenue increase over the previous year was 17.5%.

Les recettes de \$1 196.1 millions traduisent une amélioration de 9.4% sur 1972. Le tableau comparatif ci-dessous porte sur leur répartition:

		1973	1972	Augmentation (diminution) %
		en millions	en millions	
Services				
marchandises	\$ 889.0	\$ 829.0	\$ 60.0	7.2
Messageries et services intermodaux	152.4	150.9	1.5	1.0
Services voyageurs	55.4	66.6	(11.2)	(16.8)
Autres services	5.7	6.0	(0.3)	(5.0)
Subvention — Loi sur les chemins de fer	93.6	40.7	52.9	—
Total	\$1 196.1	\$1 093.2	\$102.9	9.4

Aux recettes marchandises susmentionnées sont intégrés les \$27 millions que le gouvernement fédéral doit verser au CN en compensation du manque à gagner résultant du gel des tarifs en 1973.

Le tonnage transporté s'est accru dans le cas des trois groupes de marchandises suivants: produits forestiers 4.3%; véhicules, machinerie et produits ouvrés 6%; carburants et produits chimiques 8.9%.

Pour ce qui concerne les minéraux, les minéraux et les métaux, leur tonnage a accusé une baisse de 1.4%; quant aux produits agricoles et alimentaires, les céréales ont diminué de 20% et les produits non céréaliers de 5.1%.

Le CN a transporté, au cours de l'exercice écoulé, 356 490 000 boisseaux de céréales. Ce chiffre représente 177 015 wagonnées, dont 95 249 ont été acheminées sur Thunder Bay, 63 796 sur les ports de l'Ouest, 8 534 sur le port de Churchill et 9 436 vers l'intérieur du pays.

Les recettes des messageries et des services intermodaux se sont accrues de \$1.5 million ou 1% comparativement à l'an dernier. Sans les grèves des employés de chemin de fer et des débardeurs du port d'Halifax qui ont voilé la tendance à la hausse de ces services, cet accroissement aurait incontestablement été plus appréciable. En 1972, les recettes avaient accusé une hausse de 17.5% par rapport à l'année précédente.

Bien que les recettes du trafic terrestre aient augmenté de 14.7% au cours du premier semestre de 1973, on estime à environ \$8.5 millions la perte attribuable à la grève, d'où la diminution des recettes

In the six months to June 1973, surface revenues improved by 14.7%. But the over-all surface revenue loss resulting from the strike is estimated at \$8.5 million and the final result was a decrease of \$2.2 million or 2.6% from 1972. Piggyback revenues were slightly higher than in 1972 but were approximately \$1.6 million or 5.0% less than they would have been without the strike. Import-export container operations continued to expand, but less dramatically than in previous years.

Passenger services revenues of \$55.4 million were \$11.2 million or 16.8% lower than in the previous year. Again the decline is attributable mainly to the strike which took place during the peak tourist and domestic travel season.

Payments under Railway Act. Federal Government payments under the Railway Act amounted to \$93.6 million and included \$72.8 million on account of uneconomic passenger services provided in the public interest during 1972. The increase in payments received under the Railway Act in 1973 over 1972 was \$52.9 million distributed as follows:

	In Millions
Passenger train losses	\$ 41.2
Branch lines	7.1
At and East grain	4.6
Total	\$ 52.9

Canadian Rail Expenses. Railway operating expenses increased by \$110.2 million or 10.4% over 1972. After eliminating the effect of additional wage award costs of \$70.3 million, the increase in expenses was \$39.9 million or 3.7%.

Pension costs charged to railway operating expenses in 1973 were \$77.0 million or 6.6% of total expenses. This compares with \$45.6 million, or 4.3% of the total, in 1972 and \$35.4 million, or 3.7% of the total, in 1971.

The chart opposite shows the sources of Canadian Rail revenues and the distribution of expenses between wage and benefit costs and other expenses.

Canadian Rail paid a total of \$43.2 million in taxes compared with \$41.5 million the previous year. The 1973 payments included \$21.4 million in municipal taxes or grants in lieu of municipal taxes and \$8.6 million in provincial taxes. Other tax payments were: Canada and Quebec Pension Plans, \$5.8 million; unemployment insurance, \$5.6 million; miscellaneous taxes, \$1.8 million.

de \$2.2 millions ou 2.6% par rapport à celles de l'exercice précédent. Les recettes piggyback ont certes subi une légère hausse, mais sans la grève, elles auraient pu être plus élevées d'environ \$1.6 million ou 5%. Le trafic containers import-export a continué de prendre de l'ampleur mais à un rythme plus lent qu'au cours des années antérieures.

Les services voyageurs ont produit des recettes s'établissant à \$55.4 millions, soit \$11.2 millions ou 16.8% de moins que l'an dernier. Là encore, la baisse est surtout attribuable à la grève survenue pendant la période de pointe du tourisme.

Subvention — Loi sur les chemins de fer. Le gouvernement fédéral a versé au CN, au titre de la Loi sur les chemins de fer, une subvention globale de \$93.6 millions, dont \$72.8 millions en compensation de pertes résultant de l'exploitation de services voyageurs non rentables au cours de 1972. La majoration de \$52.9 millions de la subvention sur l'exercice précédent se répartit comme suit:

	En millions
Pertes, trains de voyageurs	\$41.2
Lignes secondaires	7.1
Transport des céréales vers l'Atlantique et les Maritimes	4.6
Total	\$52.9

Dépenses — Lignes canadiennes. Les dépenses de l'exploitation ferroviaire se sont accrues de \$110.2 millions ou 10.4% comparativement à l'année dernière. Si l'on soustrait de ce chiffre l'augmentation des charges salariales qui a été de \$70.3 millions, l'accroissement des dépenses a été de \$39.9 millions, soit 3.7%.

Les charges de retraite, imputées aux dépenses de l'exploitation ferroviaire, se sont élevées à \$77 millions, soit 6.6% des dépenses totales. Elles étaient de \$45.6 millions en 1972 et \$35.4 millions en 1971, et représentaient 4.3% et 3.7% respectivement des dépenses totales.

Le tableau comparatif figurant en regard indique la provenance des recettes et la répartition des dépenses en charges salariales et sociales et autres dépenses.

Les charges fiscales des lignes canadiennes ont atteint \$43.2 millions contre \$41.5 millions l'année précédente. Ce total se décompose de la façon suivante: \$21.4 millions d'impôts municipaux ou de versements en tenant lieu, \$8.6 millions d'impôts provinciaux, \$5.8 millions aux régimes de retraite gouvernementaux, \$5.6 millions à la caisse d'assurance-chômage, et \$1.8 million en taxes diverses.

The Railway Dollar / 1973

Where it came from

Carload freight services

74.3%

Services marchandises

Express and intermodal services

12.8%

Messageries et services intermodaux

Passenger services

4.6%

Services voyageurs

Other

8.3%

Divers

Where it went

Un dollar dépensé

Operating wages

54.1%

Salaires

Pensions, welfare and other employee benefits

9.8%

Pensions et autres formes de sécurité sociale

Material and supplies

18.3%

Fournitures et approvisionnements

Depreciation

8.8%

Amortissement

Other

9.0%

Divers

U.S. Rail

The U.S. Rail sector of the Company includes the Central Vermont Railway; the Duluth, Winnipeg and Pacific Railway; and the Grand Trunk Western Railroad. In 1973 the sector moved from a loss to a profit position as shown in the following statement:

	1973	1972	Increase		
	In Millions		Amount	%	
Railway operating revenues	\$133.0	\$113.1	\$19.9	17.6	
Railway operating expenses	129.7	118.0	11.7	9.9	
Net railway operating income (loss)	3.3	(4.9)	8.2	—	
Other income	3.2	(1.7)	4.9	—	
Net income (loss)	\$ 6.5	\$ (6.6)	\$13.1	—	

Revenues from carload freight services accounted for \$132.3 million of the total railway operating revenues of \$133.0 million. Average revenue per ton of carload freight increased to \$4.69 from \$4.21 the previous year.

Commodities Carried. There was a 30.4% improvement in revenues from the Ores, Minerals and Metals commodity group, mainly because of increased movement on the Grand Trunk Western Railroad of metals related to the production of automobiles. There was a 29.6% increase in revenues from Vehicles, Machines, Manufactured Products, with increased truck production at the General Motors plant in Flint, Mich., accounting for a substantial part of the increase. An increase of 14.5% in the Fuels and Chemicals group was principally from the Duluth, Winnipeg and Pacific Railway due to higher demand for Western Canadian potash in the United States.

Other income improved by \$4.9 million mainly because of the inclusion for the first time of retained earnings of \$5.2 million in respect of equity accounting being adopted for investments in affiliated companies.

U.S. Rail Expenses. Railway operating expenses increased by \$11.7 million or 9.9%. Wage awards amounted to \$6.5 million and all other factors accounted for \$5.2 million or a 4.4% increase.

The average number of employees on U.S. Rail was 5,606, a decrease of 178 from the previous year.

Lignes des États-Unis

Le secteur « lignes des États-Unis » se compose du Central Vermont Railway, du Duluth, Winnipeg and Pacific Railway et du Grand Trunk Western Railroad. Leur exploitation, qui était déficitaire, s'est soldée en 1973 par un bénéfice comme le reflète le tableau ci-dessous:

	1973	1972	Augmentation	
	en millions		%	
Recettes exploitation ferroviaire	\$133.0	\$113.1	\$19.9	17.6
Dépenses exploitation ferroviaire	129.7	118.0	11.7	9.9
Revenu net exploitation ferroviaire (perte)	3.3	(4.9)	8.2	—
Autres revenus	3.2	(1.7)	4.9	—
Revenu net (perte)	\$ 6.5	\$ (6.6)	\$13.1	—

Des \$133 millions de recettes de l'exploitation ferroviaire, \$132.3 millions proviennent des services marchandises. Le produit moyen de la tonne de marchandises est passé de \$4.21 en 1972 à \$4.69.

Répartition du trafic. L'amélioration de 30.4% des recettes provenant des minerais, des minéraux et des métaux s'explique surtout par l'augmentation, sur les lignes du Grand Trunk Western Railroad, du volume de transport des métaux nécessaires à la construction d'automobiles. La progression de 29.6% des recettes pour la catégorie véhicules, machinerie et produits ouvrés est due dans une large mesure à l'accroissement de la production de camions General Motors à Flint (Michigan).

D'autre part, la poussée de la demande, aux États-Unis, de potasse venant de l'ouest du Canada et acheminée par le Duluth, Winnipeg and Pacific Railway a largement contribué à l'augmentation de 14.5% du groupe carburants et produits chimiques.

Enfin, la hausse de \$4.9 millions des autres revenus s'explique surtout par l'intégration de \$5.2 millions de bénéfices non répartis, à la suite de l'adoption de la méthode de comptabilisation à la valeur de consolidation pour les participations dans des compagnies affiliées.

Dépenses — Lignes des États-Unis. L'augmentation des dépenses de l'exploitation ferroviaire, de \$11.7 millions ou 9.9%, est attribuable au relèvement des salaires (\$6.5 millions), les autres dépenses s'étant accrues de \$5.2 millions ou 4.4%.

Les lignes des États-Unis comptaient un effectif de 5 606 employés, soit 178 de moins que l'année précédente.

Telecommunications

Net income from Telecommunications services was \$17.0 million, the same as in the previous year and representing a return of 7.2% on an investment base of \$238.0 million.

The accompanying statement compares 1973 with 1972:

	1973	1972	Increase/ (Decrease)	
	In Millions	Amount	%	
Revenues	\$ 92.4	\$ 86.3	\$ 6.1	7.1
Expenses	75.7	69.5	6.2	8.9
Net operating income	16.7	16.8	(0.1)	(0.6)
Other Income	0.3	0.2	0.1	—
Net income	\$ 17.0	\$ 17.0	—	—

Total revenues amounted to \$92.4 million (including \$80.8 million from commercial services), an increase of \$6.1 million or 7.1% over the previous year.

Operating expenses increased by \$6.2 million or 8.9% over 1972. Of the total increase, 50% or \$3.1 million was due to wage award costs.

Hotels

Hotel operations, including returns from Hilton-operated hotels and restaurants, produced a net income of \$4.4 million, an increase of \$1.2 million or 37.5% over 1972. The following statement compares the two years:

	1973	1972	Increase	
	In Millions	Amount	%	
Net income from CN-operated hotels	\$ 0.6	\$ 0.4	\$ 0.2	50.0
Net income from Hilton-operated hotels	3.8	2.8	1.0	35.7
Total	\$ 4.4	\$ 3.2	\$ 1.2	37.5

Total revenues from CN hotels amounted to \$67.9 million, an increase of \$8.4 million or 14.1% over the previous year.

Télécommunications

Le revenu net des services de télécommunications est le même que celui de 1972, soit 17 millions, ce qui constitue un rendement de 7.2% des \$238 millions investis.

Voici le tableau comparatif pour 1973 et 1972:

	1973	1972	Augmentation (diminution)	
	en millions		%	
Recettes	\$92.4	\$86.3	\$ 6.1	7.1
Dépenses	75.7	69.5	6.2	8.9
Revenu net de l'exploitation	16.7	16.8	(0.1)	(0.6)
Autres revenus	0.3	0.2	0.1	—
Revenu net	\$17.0	\$17.0	—	—

Les recettes totales atteignent \$92.4 millions (dont \$80.8 millions proviennent des télécommunications commerciales) ce qui représente une hausse de \$6.1 millions ou 7.1% par rapport à l'exercice précédent.

L'accroissement des dépenses de l'exploitation, qui a été de \$6.2 millions ou 8.9% comparativement à 1972, résulte de la hausse des charges salariales, qui se chiffre à \$3.1 millions, soit 50% de l'augmentation totale.

Hôtels

Le bénéfice de l'exploitation hôtelière, y compris celui qui provient des hôtels et restaurants exploités par Hilton, s'élève à \$4.4 millions, en hausse de \$1.2 million ou 37.5% sur 1972.

Voici le tableau comparatif pour les deux dernières années:

	1973	1972	Augmentation	
	en millions		%	
Bénéfice net — Hôtels exploités par le CN	\$ 0.6	\$ 0.4	\$ 0.2	50.0
Bénéfice net — Hôtels exploités par Hilton	3.8	2.8	1.0	35.7
Total	\$ 4.4	\$ 3.2	\$ 1.2	37.5

Les recettes totales des hôtels se chiffrent à \$67.9 millions, soit une amélioration de \$8.4 millions ou 14.1% par rapport à 1972.

Trucking Companies

CN's separately operated trucking companies produced a net operating profit of \$3.4 million, an increase of \$0.9 million over 1972. This represents a return of 13.9% on an investment base of \$24.2 million, compared with an 11.1% return on investment in 1972.

The following statement compares the 1973 and 1972 results:

	1973 In Millions	1972 In Millions	Increase Amount	Increase %
Revenues	\$ 57.1	\$ 49.6	\$ 7.5	15.1
Expenses	53.7	47.1	6.6	14.0
Net operating profit before interest	\$ 3.4	\$ 2.5	\$ 0.9	36.0

The increase in the net operating profit reflects growth in business as well as successful cost control.

Entreprises de camionnage

L'exploitation des entreprises autonomes de camionnage du CN se traduit par un bénéfice net d'exploitation de \$3.4 millions, dépassant de \$0.9 million celui de 1972. Le rendement est de 13.9% des \$24.2 millions investis, comparativement à 11.1% l'année précédente.

Le tableau ci-dessous indique les résultats obtenus pour 1973 et 1972:

	1973 en millions	1972 en millions	Augmentation %
Recettes	\$57.1	\$49.6	\$7.5 15.1
Dépenses	53.7	47.1	6.6 14.0
Bénéfice net d'exploitation avant intérêts	\$ 3.4	\$ 2.5	\$0.9 36.0

L'accroissement du bénéfice net de l'exploitation témoigne de l'expansion du trafic et de l'efficacité du contrôle des frais d'exploitation.

All Other Income

Major elements of the All Other Income sector and a comparison with 1972 are shown below:

	1973	1972	Increase In Millions (Decrease)
Rent income	\$ 6.7	\$ 6.1	\$ 0.6
Profit on sale of land	2.7	1.0	1.7
Interest income	2.4	1.2	1.2
Provision for vacation pay liability	(9.0)	(1.9)	(7.1)
Interest expense	(3.3)	(2.1)	(1.2)
Miscellaneous (net)	(3.6)	(0.7)	(2.9)
Total	\$ (4.1)	\$ 3.6	\$ (7.7)

The decrease of \$7.7 million in All Other Income resulted mainly from an increase in the provision for vacation liability stemming from new labour agreements. Provision for this liability cost \$9.0 million in 1973 compared with \$1.9 million in 1972.

Interest payments on short-term borrowings increased from \$2.1 million to \$3.3 million. Short-term borrowing was necessary in 1972 and to a greater extent in 1973 because of delay in the passage by Parliament of the Canadian National Railways Financing and Guarantee Act and the consequent lack of authority for CN to obtain access to an important source of working capital through sales to the Canadian Government of 4% preferred stock of the Company.

East Coast Marine and Ferry Services. These services are operated by CN on behalf of the Federal Government which compensates the Company to the full extent of the losses incurred by the services. The following statement shows the results of these operations for 1973 and 1972:

	1973	1972	In Millions	Difference
Revenues	\$12.3	\$11.2	\$ 1.1	
Subsidies	59.4	39.6	19.8	
Total income	\$71.7	\$50.8	\$20.9	
Total expenses	\$71.7	\$50.8	\$20.9	

The increase in the subsidy was due to higher operating expenses of \$20.9 million, partially offset by increased revenues of \$1.1 million.

Autres revenus

Le tableau comparatif qui suit fait état des principaux éléments dont sont constitués les autres revenus:

	1973	1972	Augmentation en millions (diminution)
Loyers	\$6.7	\$6.1	\$0.6
Profit sur vente de terrains	2.7	1.0	1.7
Intérêts reçus	2.4	1.2	1.2
Réserve pour paiement de congés annuels	(9.0)	(1.9)	(7.1)
Intérêts payés	(3.3)	(2.1)	(1.2)
Divers (net)	(3.6)	(0.7)	(2.9)
Total	\$ (4.1)	\$ 3.6	\$ (7.7)

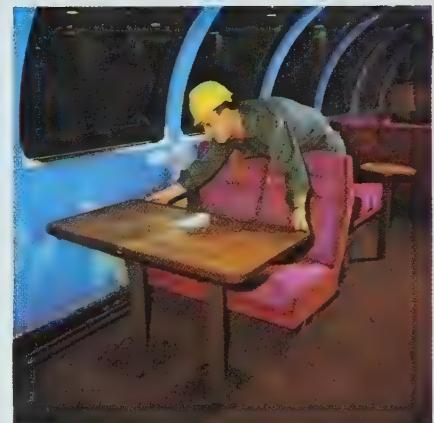
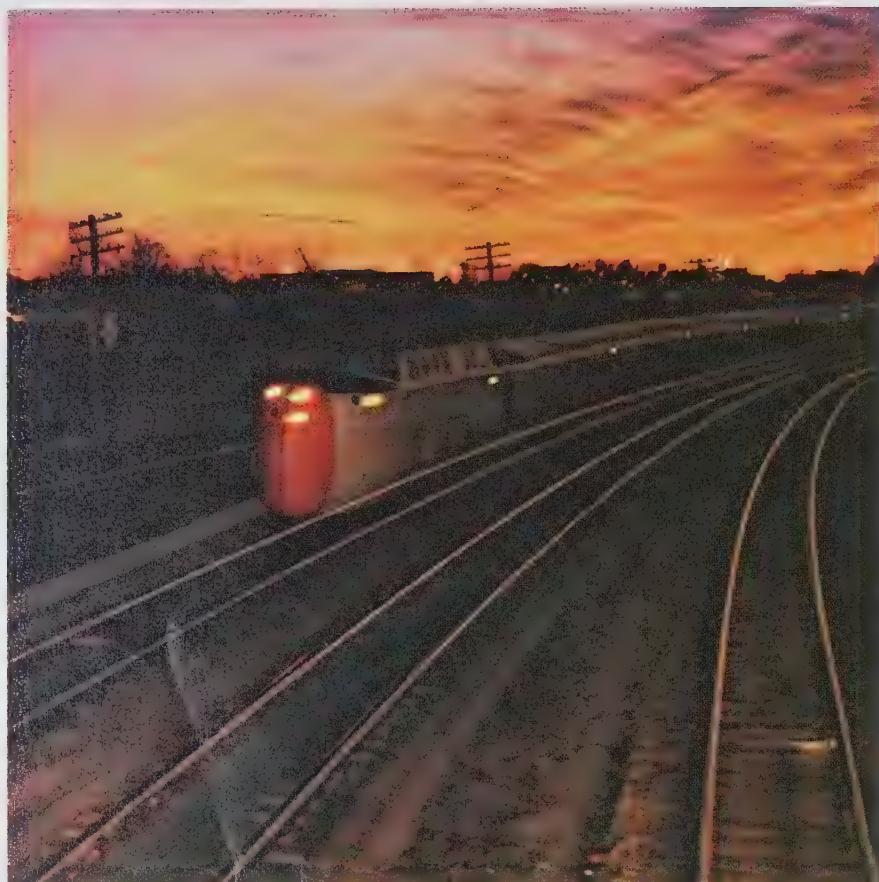
Le fléchissement de \$7.7 millions des autres revenus est attribuable en grande partie à l'accroissement de la réserve pour le paiement des congés prévus par les nouvelles conventions collectives. Cette réserve se chiffre à \$9 millions contre \$1.9 million en 1972.

Les intérêts sur les emprunts à court terme sont passés de \$2.1 millions à \$3.3 millions. Ces emprunts ont dû être contractés en raison du retard dans l'adoption par le Parlement de la Loi sur les Chemins de fer Nationaux du Canada (Financement et garantie), et de l'impossibilité qui en résulte pour le CN de se procurer les fonds de roulement nécessaires par la vente, au gouvernement du Canada, d'actions privilégiées 4%.

Services maritimes de l'Est du Canada. Le CN assure ces services pour le compte du gouvernement fédéral, qui l'indemnise intégralement de toutes les pertes que cette desserte peut entraîner. Le tableau qui suit indique les résultats d'exploitation pour 1973 et 1972:

	1973	1972	en millions	Différence
Recettes	\$12.3	\$11.2	\$ 1.1	
Subvention	59.4	39.6	19.8	
Revenu total	\$71.7	\$50.8	\$20.9	
Dépenses de l'exploitation	\$71.7	\$50.8	\$20.9	

L'accroissement de la subvention est dû à l'augmentation de \$20.9 millions des dépenses de l'exploitation, qui contrebalancent en partie les recettes accrues de \$1.1 million.



Turbo returned to revenue operation late in 1973 and was providing reliable and popular service at the year end. Year round reliability of the Super Continental means breaking snow-drifts in wintry Alberta. Continuing improvements in equipment and service are illustrated by the installation of new furniture in completely refurbished Sceneramic cars and meals at their seats for passengers on the new club galley cars.

Le Turbo, qui a repris le service commercial avant la fin de l'année, a reçu un excellent accueil auprès du public. Pour permettre au Supercontinental d'assurer son service régulièrement, il a fallu percer de véritables montagnes de neige en Alberta. Le CN ne cesse d'améliorer ses services Voyageurs, comme en témoignent le réaménagement complet de l'intérieur des voitures Sceneramic et le service des repas à la place dans les nouvelles voitures-clubs-restaurants.

General Activities

During 1973 Canadian National increased the size and variety of its fleet of locomotives and freight cars and forwarded a record amount of freight. Despite some equipment shortages, operational efficiency was maintained at a high level through effective use of modern equipment and technology, and the productivity of the rail system improved. This was an important factor in enabling the railway to handle a very high volume of traffic in the first half of the year and in the speed with which it was able to restore services and move large amounts of traffic in the three months after the July-September strike.

Marketing policies and programs based on improving service to customers were also important in generating new business and in the general progress of the year.

New Grain Position. The new position of Vice-President and Executive Representative was established, with offices in Winnipeg. The position provides a focal point for CN's planning and co-operation with all others interested and involved in improving Canada's grain handling and transportation system. It reflects the high degree of importance which CN attaches to the efficient handling and movement of Canada's grain crop to domestic and export markets.

Canadian National, CP Rail and the Canadian Transport Commission co-operated during the year in a program aimed at rationalization and improvement of railway passenger service in Canada. CN contributed significantly to the program and, in addition, augmented and improved its own passenger services in a number of areas.

The major non-rail activities of the Company were expanded and improved in response to increased demand for telecommunications and hotel services and for services in such areas as international consulting, industrial plant location, industrial development and urban redevelopment.

Activités d'ensemble

Ayant augmenté et diversifié son parc de locomotives et de wagons, le CN parvint en 1973 à transporter un volume record de marchandises. En dépit d'une certaine pénurie de matériel, grâce à un équipement moderne et à l'adoption d'une technologie avancée, il réussit à maintenir la qualité de ses services et à augmenter le rendement. C'est ainsi qu'il put acheminer un important volume de marchandises au cours du premier semestre et, après la grève, rétablir ses services sans délai pour transporter le maximum de marchandises au cours des trois derniers mois.

Un programme de marketing doublé d'une politique visant à améliorer les services nous permirent de nous attirer de nouveaux clients et contribuèrent aux progrès enregistrés.

Nouveau poste pour le trafic céréalier. Le poste de Vice-président et délégué de la Direction fut créé à Winnipeg, dans le but de centraliser la planification du CN et de mieux collaborer avec toutes les entreprises préoccupées par le transport du grain et engagées dans la recherche de solutions à ce problème. Le CN prouve ainsi, une fois de plus, combien il attache d'importance à la manutention des céréales et à leur transport vers les marchés intérieurs et extérieurs.

Le CN, CP Rail et la Commission canadienne des transports participèrent à l'établissement d'un programme de rationalisation et d'amélioration des services ferroviaires. Outre sa collaboration qui fut particulièrement marquée, le CN s'employa à améliorer ses propres services voyageurs dans bien des domaines.

Pour répondre à la demande, les activités extra-ferroviaires prirent de l'extension et notamment les télécommunications, les services des hôtels, de la consultation internationale, de l'implantation et de l'expansion industrielles ainsi que celui du réaménagement urbain.

Transportation

Freight Services. Revenue carload freight carried in 1973 totalled 116.0 million tons. This was a new record for the Company although the percentage increase over the previous year was not great. The increase was 0.6% compared with 5.4% in 1972 and an average gain of 4.9% per year in the decade since 1962. However, this pause in the steady upward trend of recent years reflected the effect of the July-September strike rather than any fall-off in demand for the freight transportation services of Canadian National.

Express and Intermodal operations continued to expand although at a somewhat slower pace than in the previous year. The number of containers handled in import-export operations increased from 150,189 twenty-foot-equivalent units in 1972 to 165,040 in 1973, a gain of 9.9%. The gain in 1972 was about 40%. A total of 62,846 piggyback trailers were carried, a decrease of 3,172 or 4.8% from 1972.

Transportation capacity improved during 1973. Added to the locomotive fleet were 118 units of 2,000-horsepower and 20 remanufactured units of 1,750-horsepower. This compares with 63 new and 14 remanufactured units added in 1972.

A total of 3,167 new freight cars were delivered to CN in 1973. This was exclusive of 582 covered hopper cars provided by the Federal Government for handling export grain from Western Canada. In addition, 10,312 freight cars were repaired in CN shops and put back into service as part of the Company's strong efforts to keep up with the increasing demand for freight cars of all kinds. In 1972 CN acquired 2,423 new freight cars and 344 covered hopper cars were provided by the Federal Government. About 8,000 cars were repaired in Company shops in 1972.

Freight train performance, as measured in gross ton miles per freight train hour, continued the steady improvement of recent years. This is illustrated by the chart opposite.

Passengers carried totalled 10,137,804 which was 1,870,657 or 15.6% below 1972. Most of the decline is attributable to the July-September strike.

Transport

Services marchandises. Le transport de marchandises en wagons complets a atteint 116 millions de tonnes. Ce nouveau record du CN ne représente toutefois qu'un faible pourcentage de croissance. En effet, après s'être maintenu pendant une dizaine d'années à 4.9%, en 1972, le taux annuel de croissance était passé à 5.4% pour tomber, en 1973, à 0.6%. Ce palier doit être imputé à la grève et non à une diminution de la demande des services marchandises du CN.

L'expansion des Messageries et des services intermodaux s'est poursuivie, mais leur progression a été plus lente. Le nombre de containers import-export, comptés en unités de 20 pieds, est passé de 150 189 en 1972 à 165 040 en 1973, soit une augmentation de 9.9%, alors qu'elle avait été de 40% en 1972. Par contre, le nombre de remorques Piggyback transportées est tombé à 62 846, soit 3 172 ou 4.8% de moins qu'en 1972.

Capacité de transport accrue. En 1973, le parc du matériel de traction s'enrichit de 118 locomotives de 2 000 chevaux, contre 63 en 1972, et de 20 locomotives de 1 750 chevaux reconditionnées, contre 14 en 1972.

Un nombre de 3 167 nouveaux wagons fut livré au CN, outre les 582 wagons-trémies couverts fournis par le gouvernement fédéral pour le transport du blé d'exportation en provenance de l'Ouest. De plus, pour répondre à la demande, le CN a procédé cette année à la réparation de 10 312 wagons dans ses ateliers, contre environ 8 000 l'an passé. En 1972, le nombre de wagons achetés était de 2 423 et le gouvernement fédéral avait fourni 344 wagons-trémies couverts.

Le rendement des trains de marchandises, exprimé en tonnes-milles brutes par train-heure, a continué à s'accroître comme l'indique le graphique ci-contre.

Services voyageurs. Avec ses 10 137 804 voyageurs, ce service a enregistré une baisse de 15.6%, soit 1 870 657 voyageurs de moins qu'en 1972. Cette baisse est imputable, en grande partie, à la grève qui frappa le rail de juillet à septembre.

During the year, CN and CP Rail were under instructions from the Canadian Transport Commission to continue their existing passenger operations and to co-operate in plans to improve over-all railway passenger services for Canadians. As part of this program, a joint reservation service was introduced, with reservations for both railways being handled through CN's electronic system. Agreement was reached with CP Rail on common fares to common points and planning was advanced for the use by CP Rail of CN's passenger facilities at Montreal, Toronto, Winnipeg and Vancouver.

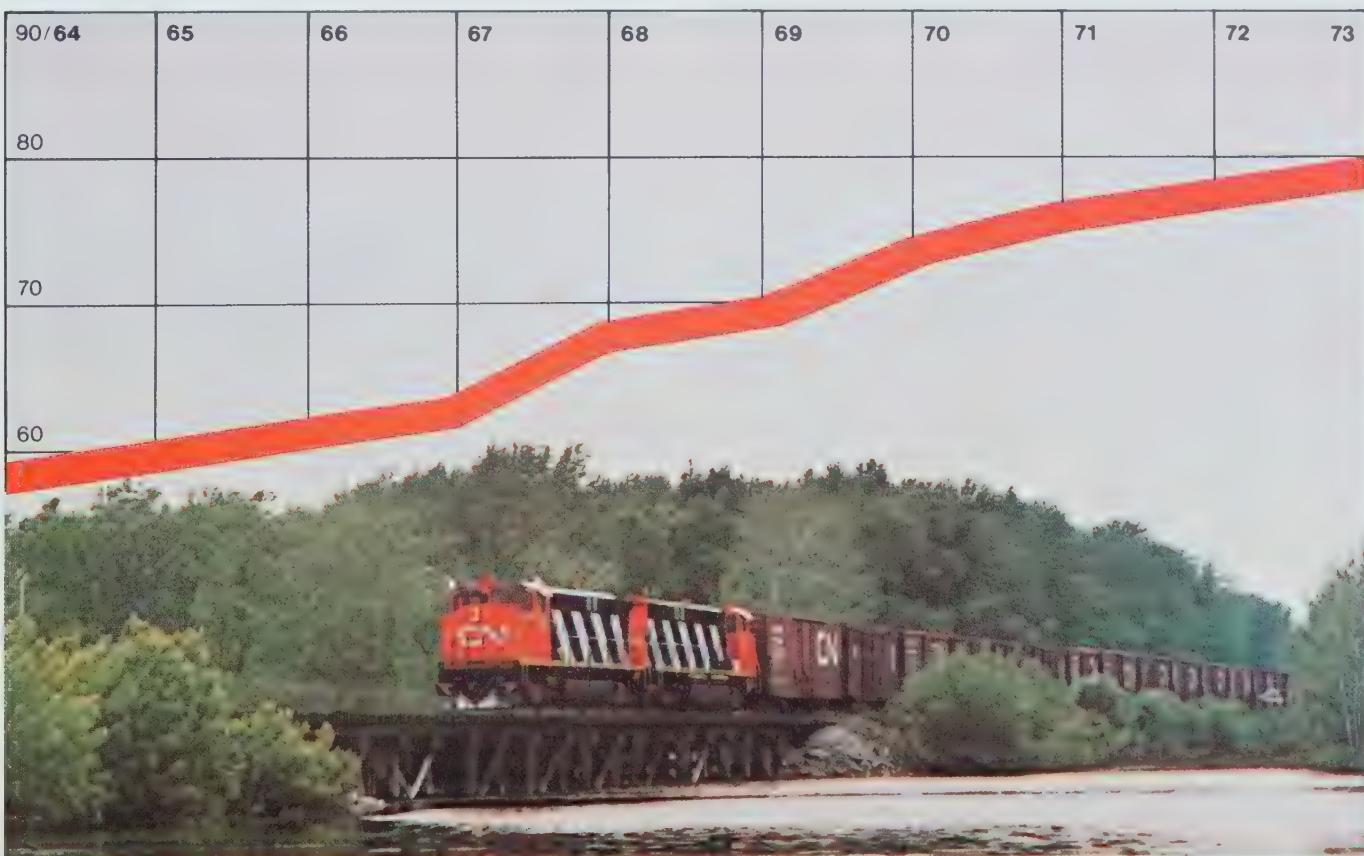
As part of CN's program to improve its own passenger services, "Dayniter" coach service, first introduced in 1972, was extended to the Toronto-Vancouver, Halifax-Montreal and Sydney-Montreal runs. A new train, "The Exec", was introduced between Toronto and Ottawa and additional trains increased passenger service in Southwestern Ontario. The Turbo was restored to revenue service between Montreal and Toronto in December of 1973. At the end of the year the train was performing well and this new form of railway passenger transportation seems destined to become a permanent part of CN's passenger equipment.

En 1973, la Commission canadienne des transports demanda au CN et à CP Rail de ne pas abandonner leurs services voyageurs et de mettre en commun leurs travaux pour l'amélioration de l'ensemble de ces services. Les deux réseaux mirent donc sur pied un service commun de réservation, utilisant le système électronique du CN, et décidèrent d'uniformiser leurs tarifs entre mêmes gares. Les travaux d'étude se sont poursuivis pour que CP Rail utilise les installations CN à Montréal, Toronto, Winnipeg et Vancouver.

Pour améliorer ses propres services, le CN décida d'étendre les liaisons effectuées en « Superconfort », lancées en 1972, aux parcours Toronto-Vancouver, Halifax-Montréal et Sydney-Montréal. La mise en service de « L'Exec » augmenta les liaisons entre Toronto et Ottawa et des trains supplémentaires furent affectés au transport des voyageurs dans le sud-ouest de l'Ontario. Remis en service en décembre 1973, le Turbo assure depuis le service entre Montréal et Toronto et semble devoir faire désormais partie de l'équipement-voyageurs standard du CN.

Gross ton miles per freight train hour,
1964-1973, in Thousands

Tonnes-milles brutes par heure de train,
1964-1973, en milliers



Other Developments

A two-year test on the use in diesel engines of synthetic crude oil processed from the Athabasca Tar Sands in Alberta was successfully completed in 1973. The Company is now obtaining as much of this product as possible (about 2,000 barrels per day) and is using it to fuel locomotives at Edmonton at a significant saving in fuel costs.

Another cost-saving product of CN's Research and Development Department is a traction control system for diesel locomotives which was brought to the implementation stage in 1973. The system improves the traction of locomotives by about 20 per cent and gives longer wheel, rail and traction motor life. It will be installed on 91 locomotives to be delivered to CN in 1974.

The Company continued participation in the research program of Canadian Arctic Gas Study Ltd. and also conducted, on behalf of the Federal Government, a joint research project with Canadian Pacific on the feasibility of a railway to move Arctic oil and gas to southern markets. A program of research on track-train dynamics, which is important to the safe, efficient operation of modern trains, was continued. The Ministry of Transport of Canada awarded CN a contract for research in this area and the Company also contributed to an on-going national program in the United States.

Management Services, a new department, took over the functions of the former Cybernetic Services and Administrative Services groups. Major effort was devoted to the implementation of TRACS, the computer-based reporting and control system which is of great importance to the future of the Company. Work done in 1973 opened the way for the progressive implementation of the main TRACS system in 1974. The completed program is expected to give CN the most advanced traffic reporting and control system in the railway industry.

Non-Rail Services

CN Telecommunications had 27,000 Telex subscribers in 1973, compared with 24,000 in 1972. CNT microwave systems were expanded in eight provinces and in the Northwest Territories and Yukon. In Northwest Canada and in Newfoundland about 17,000 telephone customers were connected to the direct distance dialing network. Long distance telephone traffic increased by 24% from Northwest Canada and by 13% from Newfoundland.

CNCP Telecommunications introduced its competitive Infodat service which greatly reduces rates, compared with those of conventional circuitry, and lessens transmission errors in digital computer data.

Autres activités

Après deux ans d'essai, nous sommes parvenus à utiliser comme carburant pour les locomotives diesels un pétrole synthétique provenant des sables bitumineux de l'Athabaska. Le CN s'en procure jusqu'à 2 000 barils par jour environ et l'utilise à Edmonton pour l'approvisionnement des locomotives. Il réalise ainsi des économies particulièrement appréciables au chapitre du carburant.

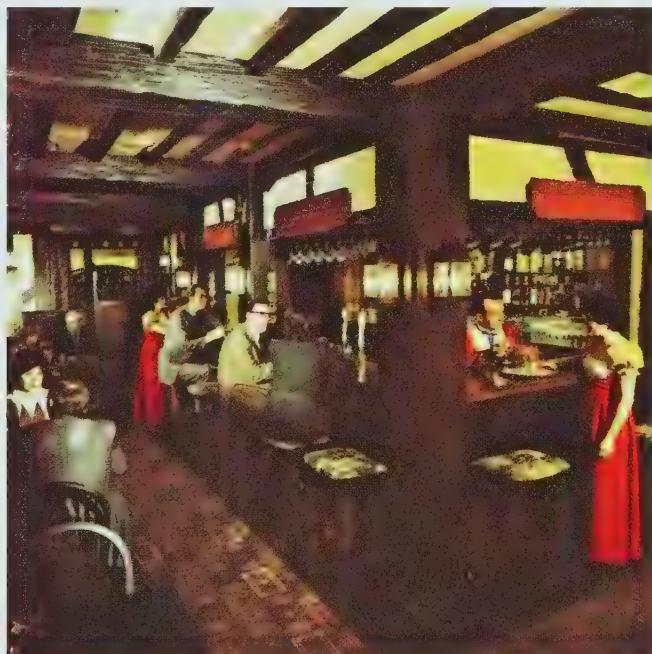
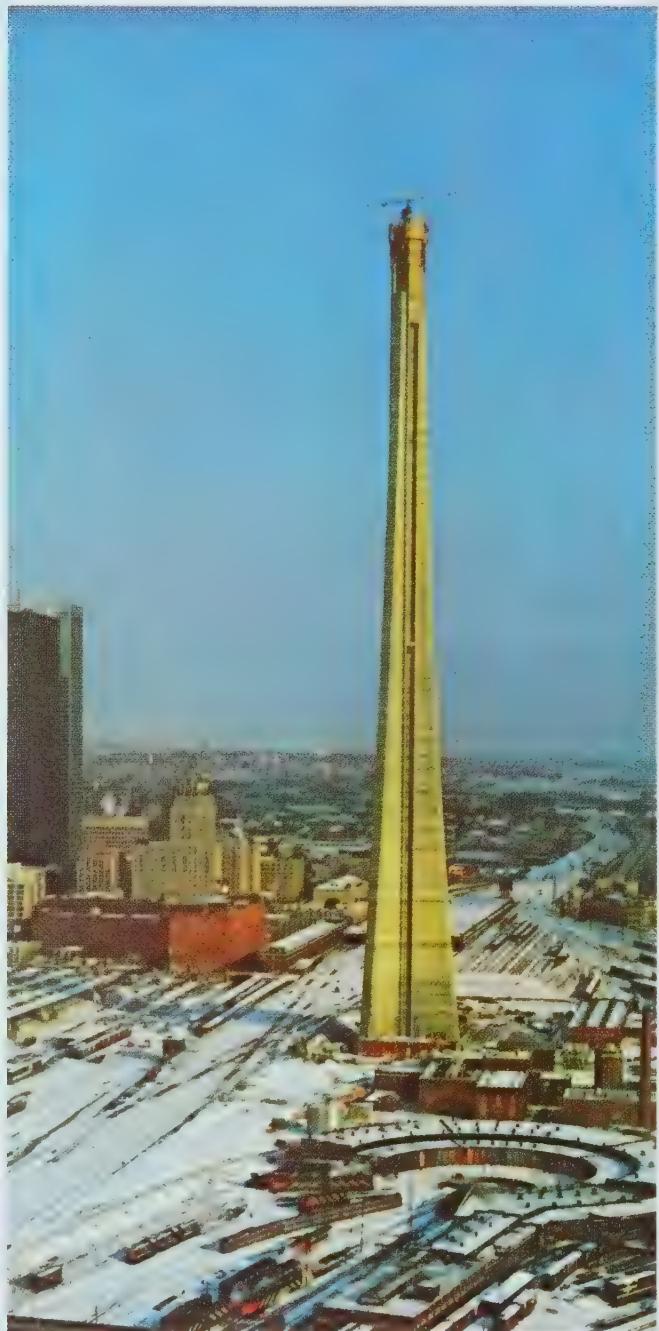
Autre élément d'économie, le régulateur électronique de traction mis au point par le service de la Recherche et dont l'adoption sur les locomotives en 1973 a permis d'augmenter de 20% environ le rendement des diesels. Ce dispositif qui prolonge la vie utile des roues, des rails et des moteurs de traction, sera installé sur les 91 locomotives commandées par le CN et livrables en 1974.

Cette année encore, le CN a collaboré avec la Canadian Arctic Gas Study Ltd. et a entrepris, pour le compte du gouvernement, des recherches avec le CP pour étudier les possibilités d'acheminement, par rail, du pétrole et du gaz de l'Arctique. Il a poursuivi ses travaux sur les efforts dynamiques réciproques entre la voie ferrée et le matériel roulant, travaux fort utiles pour la sécurité et l'exploitation de toute entreprise ferroviaire moderne. Le ministère des Transports a d'ailleurs signé avec le CN un contrat de recherche dans ce domaine, la Compagnie participant de plus à un programme national en cours aux États-Unis.

Les services administratifs et les services de cybernétique ont fusionné pour former *les services de gestion*. Les efforts de ces derniers ont porté sur l'implantation du système TRACS ou système global d'information et de contrôle du mouvement, appelé à jouer un rôle de premier plan dans l'essor de la Compagnie. Les travaux entrepris en 1973 pour l'implantation du TRACS se poursuivront en 1974. A l'achèvement des travaux, le CN sera doté du meilleur système d'information et de contrôle du mouvement de l'industrie ferroviaire.

Activités extraferroviaires

Les Télécommunications CN avaient, en 1973, 27 000 abonnés au Telex contre 24 000 en 1972. Elles ont étendu leur système de micro-ondes TCN dans huit provinces, dans les Territoires du Nord-Ouest et au Yukon. Près de 17 000 usagers du service téléphonique de Terre-Neuve et du Nord-Ouest canadien ont été reliés au réseau de communication interurbaine directe. Les appels interurbains ont, de ce fait, augmenté de 24% dans le Nord-Ouest canadien et de 13% à Terre-Neuve.



Non-rail activities account for a sizeable part of CN revenues. A CN Transportation Limited driver mounts the cab of a 'semi' loaded with containerized traffic. The CN Tower reaches 'top of concrete', dominating the skyline of downtown Toronto. "Cross Keys", a quiet lounge in Tudor style, opened in the Chateau Laurier, Ottawa.

Les services extraferroviaires représentent une bonne part des recettes du CN. Un chauffeur de la CN Transportation Limited s'apprête à prendre le volant de sa semi-remorque chargée de containers. La tour CN, qui domine le centre-ville de Toronto, a coiffé sa couronne de béton. Au Château Laurier à Ottawa, inauguration du « Cross Keys », charmant petit bar de style Tudor.

CN Hotels invested a total of \$5.5 million during 1973 in capital projects designed to improve services and modernize facilities.

The Hotel Bessborough in Saskatoon was sold to Management Associates Limited of Saskatoon which took over its operation and management on October 1, 1973.

CANAC Consultants Limited, the international consulting service formed jointly by CN and Air Canada, carried out contracts in Latin America, Africa, Asia and Northern Quebec. Among major projects were management, operations and training for Chemin de fer de Boké in the Republic of Guinea; the design and location of a 600-mile iron ore development railway in Brazil; and assistance in establishing a commercial road transport service in Bangladesh.

Other projects were under way in Tanzania, Taiwan, Mali, Malawi, Brazil, and Zambia.

CANAC also completed the last year of a four-year project in northern Quebec to provide railway design and supervision of construction for private mining interests, and participated in a study of alternative air and surface transport for the movement of materials to the James Bay Development project site.

The Real Estate group completed a land exchange arrangement in St. John's, Newfoundland, which will make CN the owner of a parcel of land on Water Street. This land will be leased to a private developer as the site for a \$20-million commercial-office-hotel complex now under construction. CN will lease back the hotel and some office space, and will relocate its express-freight facilities at a site on the outskirts of the city.

At the beginning of the year construction started on the 1,800-foot CN Tower, focal point of the 190-acre joint CN-CP Metro Centre project in Toronto.

Other real estate development projects were completed or were at various stages of development during the year at Truro, Sydney and Bridgewater in Nova Scotia; at Chatham, N.B.; at Riviere-du-Loup, Que.; at Peterborough and Stratford in Ontario; and at Edmonton.

The Industrial Development organization provided help for industrial firms in finding suitable locations, and undertook a number of land use studies, including two major projects in Winnipeg and Vancouver.

La mise en service d'Infodat par les Télécommunications CN/CP a considérablement réduit les tarifs si on les compare à ceux qui sont en vigueur dans les entreprises utilisant des circuits traditionnels. De plus, elle a diminué les risques d'erreur dans la transmission des chiffres.

Hôtels CN. En 1973, les montants investis en travaux de réfection et de modernisation se sont élevés à \$5.5 millions. L'Hôtel Bessborough a été vendu à la société Management Associates Limited de Saskatoon qui en a repris l'exploitation et la direction le 1^{er} octobre 1973.

La CANAC, division de consultation internationale du CN et d'Air Canada a dispensé ses services en Amérique latine, en Afrique, en Asie et dans le nord du Québec. Parmi ses principales réalisations, citons la gestion et l'exploitation du Chemin de fer de Boké, en Guinée, l'étude du tracé d'une voie ferrée de 600 milles pour l'acheminement du minerai, au Brésil, ainsi qu'une collaboration dans l'établissement d'un réseau routier au Bangladesh.

D'autres travaux sont en cours en Tanzanie, à Formose, au Mali, au Malawi, au Brésil et en Zambie.

La CANAC vient de réaliser, dans le nord du Québec, un programme échelonné sur quatre ans, au terme duquel elle a établi le tracé et supervisé la construction d'une voie ferrée pour le compte d'une industrie minière. Elle a, en outre, participé à une étude comparative du transport aérien et du transport de surface pour l'acheminement de matériaux destinés aux travaux de développement de la baie James.

Domaine. Une opération immobilière portant sur un échange de terrains à Saint-Jean (T.-N.) permettra au CN d'avoir une propriété à Water Street. Le nouveau terrain sera loué à un promoteur et servira à la construction d'un complexe de \$20 millions qui abritera un centre commercial, un hôtel et un immeuble à bureaux. Le CN louera l'hôtel et quelques bureaux, et procèdera au transfert de ses installations de messageries à la périphérie de la ville.

Les travaux de construction de la Tour CN ont commencé à Toronto, au début de l'année. Cet édifice de 1 800 pieds sera le point de mire de Metro Centre, complexe CN-CP.

D'autre part, certains travaux ont été achevés et d'autres sont en cours d'exécution, notamment ceux de Truro, de Sydney et de Bridgewater en Nouvelle-Écosse, ceux de Chatham au Nouveau-Brunswick, de Rivière-du-Loup au Québec, de Peterborough et de Stratford en Ontario et ceux d'Edmonton en Alberta.

In 1973, 524 resource developments, manufacturing plants and distribution facilities were established at locations served by the Company. A total of 67 miles of private sidings and industrial spurs were built to serve new or expanded plants.

Marine Services. A major reorganization of CN's marine and ferry services was effected in 1973 with the setting up of the East Coast Marine and Ferry Services administration to co-ordinate, operate, improve and expand the ferry and coastal services operated in the Atlantic provinces for the federal Ministry of Transport.

The number of passengers carried by the vessels of East Coast Marine and Ferry Services was 1,702,061, a decline of 1.1% from the previous year. The number of vehicles carried reached 640,482, an increase of 3.2%.

On the west coast, the S.S. Prince George carried a total of 4,994 passengers on 20 cruises from Vancouver to Skagway, Alaska. This was 250 fewer passengers than in 1972.

Personnel and Labour Relations

Average employment on Canadian Rail in 1973, adjusted to eliminate the effect of the July-September rail strike, was 66,905, or about the same as in 1972. Average employment across the System, adjusted for the effect of the strike, was 81,700 or about 0.5% lower than in 1972.

The System average annual earnings per employee was \$10,859, an increase of 12.7% over the previous year.

Negotiations with labour unions, which began in late 1972 and continued into 1973, were followed by selective strikes and a national strike. The Maintenance of Railway Operations Act, 1973, terminated the strike and provided for retroactive wage increases. In early 1974 a binding arbitration decision, handed down by Mr. Justice Emmett Hall, awarded increases of about 23% over a two-year period for approximately 58,000 employees represented by the associated non-operating unions, the federated shop craft unions and the United Transportation Union. In addition, 2,900 employees represented by the Brotherhood of Locomotive Engineers received the same basic wage increases.

Expansion industrielle. Le CN a participé à l'établissement d'entreprises industrielles et amorcé des études sur l'aménagement de terrains, notamment à Winnipeg et à Vancouver.

En 1973, 524 entreprises d'extraction, de transformation ou de distribution se sont installées dans des localités raccordées au chemin de fer. Le nombre de milles posés en voies privées et embranchements particuliers a atteint 67.

Services maritimes. En 1973, il a été procédé à une réorganisation importante des Services maritimes et de traversiers. Désormais, la nouvelle administration des Services maritimes de l'Est du Canada aura pour tâche la coordination, l'exploitation et l'expansion des services côtiers et de traversiers des Provinces Maritimes pour le compte du ministère fédéral des Transports.

Les navires des Services maritimes de l'Est du Canada ont transporté 1 702 061 passagers, soit 1.1% de moins que l'an dernier. Le chiffre des véhicules transportés s'établit à 640 482, ou 3.2% de plus.

Sur la côte ouest, au cours de 20 croisières effectuées entre Vancouver et Skagway (Alaska), le "Prince George" a transporté 4 994 passagers, soit 250 de moins que l'année précédente.

Personnel et relations syndicales

La moyenne des effectifs en 1973, pour les lignes canadiennes, a été de 66 905, moyenne corrigée pour tenir compte de la grève et qui se rapproche de celle de 1972. La moyenne des effectifs pour l'ensemble du Réseau a été de 81 700, chiffre également corrigé, soit 0.5% de moins que l'année dernière.

Le salaire moyen a atteint \$10 859 soit une augmentation de 12.7% sur 1972.

Les négociations qui avaient été amorcées fin 1972 et s'étaient poursuivies en 1973 n'ayant pas abouti, les syndicats organisèrent des grèves tournoyantes qui se transformèrent en grève générale. La loi de 1973 sur le maintien de l'exploitation des chemins de fer mit fin à la grève et accorda des augmentations de salaire rétroactives. Début 1974, une sentence arbitrale du juge Emmett Hall allouait des augmentations de l'ordre de 23% réparties sur deux ans, à près de 58 000 employés affiliés aux Syndicats associés des services ferroviaires non roulants, à la Fédération des métiers et aux Travailleurs unis des transports.



Nature on The Rampage. The Prairie Winter of 1973-74 showed that, despite powerful machines and advanced technology, direct confrontation between man and the elements is still part of modern railroading.

Quand la nature se déchaîne . . . En dépit du matériel et des techniques modernes mis à sa disposition, l'homme doit parfois — ce fut le cas cet hiver dans les Prairies — se livrer à un véritable corps-à-corps avec les éléments pour permettre au train de passer.

The arbitration award also provided for increased fringe benefits and recognized the negotiated and agreed-to pension benefit improvements. The arbitrator retained jurisdiction over certain issues such as job security and a reduced freight crew consist.

Settlement agreements were signed during 1973 with employees of marine services; CN Police; the Hotels Newfoundland, Nova Scotian and Macdonald; and employees of certain CN subsidiaries in the United States.

Total Company contributions for pension and retirement benefits in 1973 compared with 1972 are as follows:

	1973	1972	In Millions	Increase
CN Pension Plans	\$ 87.7	\$53.7		\$34.0
Government Plans:				
Canada (and Quebec)	7.1	6.8		0.3
U.S. Railroad Retirement	8.6	6.4		2.2
Total	\$103.4	\$66.9		\$36.5

The increase in the Company's contribution to CN Pension Plans is primarily due to costs resulting from pension plan improvements worked out with the unions during the year and to increased payments to pensioners.

Pensioners who had retired under the 1959 and 1935 Pension Plans on or before December 31, 1972, had their pensions increased by 2%. A similar increase was applied to widows of deceased pensioners and of deceased employees.

Exclusive of benefit payments under the Canada (and Quebec) Pension Plans, and those made under the U.S. Railroad Retirement Act, there was paid to pensioners and beneficiaries, under the various Canadian National pension arrangements, a total of \$83.3 million in 1973, and 37,710 individuals were receiving such payments at the end of the year.

The Company cost of welfare plans providing health insurance benefits and life insurance was \$22.8 million in 1973, compared with \$21.0 million in 1972.

Des augmentations du même ordre furent consenties aux 2 900 employés affiliés à la Fraternité des mécaniciens de locomotive.

La sentence arbitrale accordait en outre des avantages sociaux accrus et ratifiait l'augmentation des pensions décidée au cours des négociations. L'arbitre se réserva le droit de statuer sur certaines clauses, notamment sur la sécurité d'emploi et sur la composition des équipes de conduite dans les trains de marchandises.

Des accords furent conclus avec les employés des services maritimes, les policiers du CN, le personnel des hôtels Newfoundland, Nova Scotia, Beauséjour et MacDonald et les employés de certaines filiales du CN aux États-Unis.

Les contributions patronales au titre des divers régimes de retraite en 1972 et en 1973 figurent dans le tableau suivant.

	1973	1972	Augmen- en millions	tation
Régimes du CN	\$87.7	\$53.7		\$34.0
Régimes gouvernementaux:				
Canada et Québec	7.1	6.8		0.3
Caisse de retraite des chemins de fer américains	8.6	6.4		2.2
Total	\$103.4	\$66.9		\$36.5

L'augmentation des cotisations de la Compagnie aux régimes de retraite du CN s'explique d'abord par l'augmentation des pensions décidée au cours des négociations avec les syndicats et par le relèvement des pensions versées aux retraités.

Le montant des pensions versées aux employés ayant pris leur retraite avant le 31 décembre 1972 au titre des régimes de 1959 et de 1935 a été augmenté de 2%. Une augmentation du même ordre a été accordée aux veuves d'employés ou de pensionnés.

Mis à part les versements faits au titre des régimes gouvernementaux et à la caisse de retraite des chemins de fer américains, les pensions versées par le CN se sont montées à \$83.3 millions en 1973 et le nombre de retraités et d'ayants droit était de 37 710 à la fin de l'année.

Les contributions à l'assurance-maladie et à l'assurance-vie se sont montées à \$22.8 millions contre \$21 millions en 1972.

Commentary

The past year was one of progress by Canadian National despite some grave difficulties. Labour disputes and an industry-wide shortage of railway equipment posed serious problems for the rail sector of our business. But increased productivity during most of the year enabled us to offset these difficulties to a significant degree and to handle the largest volume of revenue freight traffic in the history of the Company.

Demand for freight transportation showed the upward trend which the Company had foreseen and in anticipation of which it had taken steps to increase the amount and improve the utilization of rolling stock and other equipment. The amount of freight carried would have been much higher, however, had it not been for traffic losses due to the July-September rail strike and strikes against two of our major equipment suppliers which delayed delivery of badly needed freight cars.

Demand for passenger transportation was slightly lower than in the previous year but CN's passenger services were augmented and improved and, in co-operation with CP Rail and the Canadian Transport Commission, important progress was made in a program of rationalization of all Canadian railway passenger services.

Telecommunication services, and most of the other non-rail activities of the Company, expanded during the year in response to a generally favourable economic climate and the ability of the various services to meet the increased demand.

The over-all financial result was good, considering all the circumstances. Our long-term planning had called for continuation of the progressive improvement which has been achieved in recent years. Indeed, we had hoped to report a modest surplus for the first time since 1956. However, traffic losses due to the railway strike, together with additional wage and benefit costs, converted an anticipated surplus of about \$10 million to a deficit of \$21 million.

Commentaire

En dépit de graves difficultés, 1973 a été une année de progrès pour le CN. Les conflits du travail et la pénurie générale de matériel ferroviaire ont posé des problèmes dans le secteur du rail. L'accroissement du rendement pour l'ensemble de l'année nous a permis toutefois de rétablir un certain équilibre et de battre nos propres records sur le plan du transport commercial des marchandises.

En effet, comme l'entreprise ferroviaire l'avait prévu, il y a eu augmentation du trafic marchandises. Le CN avait pris ses dispositions pour augmenter son parc de matériel et en accroître le rendement. Le volume des marchandises transportées aurait certes été plus élevé si la grève n'avait affecté nos services, de juillet à septembre, et frappé aussi deux importants fournisseurs, qui furent obligés de différer la livraison de wagons dont nous avions un besoin si pressant.

Sur le plan du transport voyageurs, la demande a légèrement fléchi, mais le CN a pu augmenter et perfectionner ses services. De plus, en collaboration avec CP Rail et la Commission canadienne des transports, d'importants progrès ont été accomplis dans l'établissement d'un programme visant à rationaliser tous les services voyageurs.

La conjoncture économique étant favorable et nos services étant en mesure de répondre à la demande, les télécommunications et d'autres activités extra-ferroviaires prirent de l'extension.

Somme toute, nos résultats financiers sont bons. Notre planification à long terme prévoyait que notre situation financière continuerait de s'améliorer comme c'était le cas ces dernières années. A vrai dire, nous espérions déclarer un bénéfice pour la première fois depuis 1956. La perte d'une partie de nos recettes consécutive à la grève, et l'accroissement de la charge salariale ont transformé les \$10 millions de bénéfice escomptés en un déficit de \$21 millions.

Despite this setback, net railway operating income reached \$25.7 million, the highest since 1956, and the operating profit of the Company — that is, the net income before payment of interest on the long-term debt — was a quite respectable \$48.5 million, a slight improvement over the previous year.

The prospects for continued improvement in financial results and for the achievement of a profit position in 1974 appear reasonably good. Among the reasons for this are the technological and organizational improvements which have been implemented in recent years and which are now enabling Canadian National to offer better and more varied services to its many customers. Development of advanced systems for the handling of containers, implementation of the first phases of an advanced computerized traffic reporting and control system (TRACS) and strengthening of marketing efforts are among such improvements.

The state of the national economy will, of course, have a bearing on the immediate future and here such problems as those of energy supply and pricing, and of world-wide inflation, must make for cautious forecasting. However, the probability is that the Canadian economy will continue to expand although perhaps at a slower pace than in 1973. A certainty is that Canadian National will continue the important contribution it has historically made to the economic strength and social development of Canada.

The Management and Board of Directors take this opportunity to thank the men and women who make up Canadian National for all their efforts on behalf of the Company and the nation.

Signed on behalf of the Board of Directors



March 30, 1974

Malgré ce revers, le bénéfice net de l'exploitation ferroviaire a été de \$25.7 millions, chiffre le plus élevé depuis 1956, et le bénéfice global d'exploitation, c'est-à-dire le revenu net avant charges de la dette, a atteint la somme assez respectable de \$48.5 millions, soit une légère amélioration par rapport à l'année dernière.

Les perspectives de progrès et de profits pour 1974 restent bonnes. En effet, l'adoption depuis quelques années de certains perfectionnements en matière de technique et d'organisation permettra au CN d'assurer un meilleur service à ses nombreux clients. Citons, entre autres, la mise au point de nouvelles méthodes de manutention des containers, l'implantation progressive du TRACS (système global d'information et de contrôle du mouvement) et la concentration des efforts de marketing.

Le comportement de l'économie canadienne jouera, cela va sans dire, un rôle prépondérant dans nos réalisations à court terme. Nos prévisions devront donc tenir compte désormais de certains facteurs tels que le prix et la disponibilité du carburant et l'inflation. Il est fort probable que notre essor se poursuive, quoique à un rythme un peu plus lent peut-être. Une chose est certaine: le CN continuera à jouer un rôle de premier plan dans le développement économique et social du Canada.

Au nom de la Compagnie et du pays tout entier, la Direction et le Conseil d'administration tiennent à remercier tous les employés, hommes et femmes, pour leur esprit de collaboration.

Présenté au nom du Conseil d'administration,



Montréal, le 30 mars 1974

Executive and General Officers

N. J. MacMillan, Q.C., LL.D.	President
M. Archer	Senior Vice-President, Toronto
A. H. Hart, Q.C.	Senior Vice-President, Vancouver
E. P. Stephenson	Vice-President and Executive Representative, Winnipeg
R. T. Vaughan, Q.C., LL.D.	Vice-President, Assistant to the Chairman, Secretary of the Company
R. R. Latimer	Assistant to President
J. W. G. Macdougall, O.B.E., Q.C.	Executive Vice-President
K. E. Hunt	Vice-President, Operations and Maintenance
J. C. Gardiner	Vice-President, Marketing and Sales
R. E. Lawless	Vice-President, Freight Sales

Atlantic Region

D. W. Blair, M.B.E.	Vice-President, Moncton
G. R. Boulet	Assistant Vice-President
W. R. Mitchell	Regional Manager, Operations
M. S. Greene	Manager, Newfoundland Area, St. John's

St. Lawrence Region

J. F. Roberts	Vice-President, Montreal
L. M. Poitevin	Assistant Vice-President
W. J. Mayo	Regional Manager, Operations
H. J. Kay	Manager, Champlain Area
J. A. Gauthier	Manager, Montreal Area
J. L. Moisan	Manager, Quebec Area, Quebec City

Great Lakes Region

W. D. Piggott	Vice-President, Toronto
S. E. Spencer	Regional Manager, Operations
R. V. Doty	Manager, Toronto Area
W. J. Law	Manager, Southwestern Ontario
E. J. Healy	Area, London
J. R. Burns	Manager, Northern Ontario
	Area, Capreol
	Manager, Rideau Area, Belleville

Prairie Region

A. R. Williams	Vice-President, Winnipeg
R. J. Hansen	Assistant Vice-President
R. G. Messenger	Regional Manager, Operations
L. H. B. Gooding	Manager, Lakehead and Assiniboine Areas
A. C. Weaver	Manager, Hudson Bay Area, Dauphin
A. R. Steele	Manager, Saskatchewan Area, Saskatoon

Mountain Region

J. H. Spicer	Vice-President, Edmonton
R. M. Veenis	Assistant Vice-President
G. D. McMillan	Regional Manager, Operations
J. O. Pitts	Manager, Alberta Area

Direction

N. J. MacMillan, C.R., LL.D.	Directeur général
M. Archer	Vice-président senior, Toronto
A. H. Hart, C.R.	Vice-président senior, Vancouver
E. P. Stephenson	Vice-président et représentant délégué, Winnipeg
R. T. Vaughan, C.R., LL.D.	Vice-président, Adjoint du Président et secrétaire de la Compagnie
R. R. Latimer	Adjoint au Président
J. W. G. Macdougall, O.B.E., C.R.	Vice-président exécutif
K. E. Hunt	Vice-président, Exploitation et entretien
J. C. Gardiner	Vice-président, Ventes et marketing
R. E. Lawless	Vice-président, Ventes marchandises

Région de l'Atlantique

D. W. Blair, M.B.E.	Vice-président, Moncton
G. R. Boulet	Vice-président adjoint
W. R. Mitchell	Directeur régional, Exploitation
M. S. Greene	Directeur, Secteur de Terre-Neuve, Saint-Jean

Région du Saint-Laurent

J. F. Roberts	Vice-président, Montréal
L. M. Poitevin	Vice-président adjoint
W. J. Mayo	Directeur régional, Exploitation
H. J. Kay	Directeur, Secteur de Champlain
J. A. Gauthier	Directeur, Secteur de Montréal
J. L. Moisan	Directeur, Secteur de Québec, Québec

Région des Grands-Lacs

W. D. Piggott	Vice-président, Toronto
S. E. Spencer	Directeur régional, Exploitation
R. V. Doty	Directeur, Secteur de Toronto
W. J. Law	Directeur, Secteur du Sud-Ouest de l'Ontario, London
E. J. Healy	Directeur, Secteur du Nord de l'Ontario, Capreol
J. R. Burns	Directeur, Secteur de Rideau, Belleville

Région des Prairies

A. R. Williams	Vice-président, Winnipeg
R. J. Hansen	Vice-président adjoint
R. G. Messenger	Directeur régional, Exploitation
L. H. B. Gooding	Directeur, Secteurs de la Tête-des-Lacs et de l'Assiniboine
A. C. Weaver	Directeur, Secteur de la Baie d'Hudson, Dauphin
A. R. Steele	Directeur, Secteur de la Saskatchewan, Saskatoon

Région des Montagnes

J. H. Spicer	Vice-président, Edmonton
R. M. Veenis	Vice-président adjoint
G. D. McMillan	Directeur régional, Exploitation
J. O. Pitts	Directeur, Secteur de l'Alberta

R. A. Bandeen, Ph. D.	Executive Vice-President, Finance and Administration	R. A. Bandeen, D. Ph.	Vice-président exécutif, Finance et administration
W. R. Corner	Vice-President, Accounting	W. R. Corner	Vice-président, Comptabilité
S. D. H. Thomas	Comptroller	S. D. H. Thomas	Contrôleur
E. J. Denyar	Treasurer	E. J. Denyar	Trésorier
C. F. Armstrong	Vice-President, Management Services	C. F. Armstrong	Vice-président, Services de gestion
W. H. Bailey	Vice-President, Purchases and Stores	W. H. Bailey	Vice-président, Achats et magasins
A. D. Lang	General Manager, Purchases and Stores	A. D. Lang	Directeur général, Achats et magasins
J. Gratwick	Vice-President, Research and Development	J. Gratwick	Vice-président, Recherche et développement
P. Blanchet	Assistant Vice-President and General Manager of Real Estate	P. Blanchet	Vice-président adjoint et Directeur général des Immeubles
J. H. Richer	Executive Vice-President, Passenger, Express and Non-Rail Services	J. H. Richer	Vice-président exécutif, Voyageurs
H. J. Clarke	Vice-President and General Manager, Telecommunications	H. J. Clarke	Messageries et services extraferroviaires
A. Olynyk	General Manager, Express and Intermodal Services	A. Olynyk	Vice-président et Directeur général, Télécommunications
L. K. Ash	General Manager, Canadian National Transportation, Limited, Toronto	L. K. Ash	Directeur général, Messageries et services intermodaux
Y. H. Masse	General Manager, Passenger Sales and Services	Y. H. Masse	Directeur général, Canadian National Transportation, Limited, Toronto
M. F. Craston	General Manager, Hotels	M. F. Craston	Directeur général, Ventes et services voyageurs
P. Taschereau, Q.C.	Executive Vice-President, Corporate Affairs	P. Taschereau, C.R.	Directeur général, Hôtels
J. M. Duncan	Vice-President, Law General Counsel	J. M. Duncan	Vice-président exécutif, Affaires générales
G. M. Cooper	Vice-President, Personnel and Labour Relations	G. M. Cooper	Vice-président, Contentieux
G. Lach	Assistant Vice-President Labour Relations	G. Lach	Avocat général
G. H. Bloomfield	General Manager, Public Relations and Advertising	G. H. Bloomfield	Vice-président, Personnel et relations syndicales
T. A. Kerr	General Manager, Public Relations	T. A. Kerr	Vice-président adjoint, Relations syndicales
M. R. Meunier		M. R. Meunier	Directeur général, Relations publiques et publicité
W. Toulmin	Executive Assistant to the President	W. Toulmin	Directeur général, Relations publiques
W. C. Skelly	Chief, CN Police	W. C. Skelly	Adjoint exécutif
P. Vaughan, M.D.	Director, Medical Services	P. Vaughan	Chef, Police du CN
W. G. Buchanan	General Manager, European Organization, London, England	W. G. Buchanan	Directeur du Service médical
			Directeur général, Services européens, Londres
Investment Division			
J. L. Toole	Chairman of the Division (a Vice-President of CN)	J. L. Toole	Administrateur délégué (Vice-président du CN)
T. Cedraschi	General Manager	T. Cedraschi	Directeur général
CANAC Consultants Limited			
A. V. Johnston	President	A. V. Johnston	Président
Grand Trunk Western Railroad Company			
J. H. Burdakin	Executive Vice-President	J. H. Burdakin	Vice-président exécutif
D. G. Wooden	Vice-President, Corporate Finance and Planning	D. G. Wooden	Vice-président, Planification générale et finance
W. H. Cramer, Jr.	Vice-President, Marketing, Sales	W. H. Cramer, Jr.	Vice-président, Marketing, Ventes

Companies included in the Canadian National System

CN Hotels (Moncton) Ltd.
Canadian National Railway Company
Canadian National Express Company
C.N. (France) S.A.
Canadian National Realties, Limited
Canadian National Steamship Company, Limited
Canadian National Telegraph Company
CN Tower Limited
Canadian National Transfer Company
Canadian National Transportation, Limited
The Canadian National Railways Securities Trust
The Canadian Northern Quebec Railway Company
Canac Consultants Limited — Canac Consultants Limitée
Canalog Logistics Limited
Chapman Transport Limited
Eastern Transport Limited
The Great North Western Telegraph Company of Canada
Hoar Transport Company Limited
Husband Transport Limited
Husband International Transport (Ontario) Limited
Husband Transport (Quebec) Limited
Midland Superior Express Limited
The Minnesota and Manitoba Railroad Company
The Minnesota and Ontario Bridge Company
Mount Royal Tunnel and Terminal Company, Limited
The Northern Consolidated Holding Company Limited
Provincial Tankers Limited
The Quebec and Lake St. John Railway Company
Royal Transportation Limited
Swan River — The Pas Transfer Ltd.
The Toronto — Peterborough Transport Company, Limited
Central Vermont Railway, Inc.
Central Vermont Transportation Company
Duluth, Rainy Lake & Winnipeg Railway Company
Duluth, Winnipeg and Pacific Railroad Company
Duluth, Winnipeg and Pacific Railway Company
Grand Trunk Corporation
Grand Trunk Land Development Corporation
Grand Trunk Leasing Corporation
Grand Trunk — Milwaukee Car Ferry Company
Grand Trunk Western Railroad Company

In addition, the property of the Canadian Government Railways is entrusted to the Canadian National Railway Company as part of the System.

Groupe des Chemins de fer Nationaux du Canada

CN Hotels (Moncton) Ltd.
Compagnie des Chemins de fer Nationaux du Canada
Canadian National Express Company
C.N. (France) S.A.
Canadian National Realties, Limited
Canadian National Steamship Company, Limited
Canadian National Telegraph Company
La Tour CN Limitée
Canadian National Transfer Company
Canadian National Transportation, Limited
Trust des titres des chemins de fer nationaux du Canada
The Canadian Northern Quebec Railway Company
Canac Consultants Limited — Canac Consultants Limitée
Société de Logistique Canalog Limitée
Chapman Transport Limited
Eastern Transport Limited
The Great North Western Telegraph Company of Canada
Hoar Transport Company Limited
Husband Transport Limited
Husband International Transport (Ontario) Limited
Husband Transport (Quebec) Limited
Midland Superior Express Limited
The Minnesota and Manitoba Railroad Company
The Minnesota and Ontario Bridge Company
Mount Royal Tunnel and Terminal Company, Limited
The Northern Consolidated Holding Company Limited
Provincial Tankers Limited
La Compagnie du chemin de fer de Québec au lac St-Jean
Royal Transportation Limited
Swan River — The Pas Transfer Ltd.
The Toronto — Peterborough Transport Company, Limited
Central Vermont Railway, Inc.
Central Vermont Transportation Company
Duluth, Rainy Lake & Winnipeg Railway Company
Duluth, Winnipeg and Pacific Railroad Company
Duluth, Winnipeg and Pacific Railway Company
Grand Trunk Corporation
Grand Trunk Land Development Corporation
Grand Trunk Leasing Corporation
Grand Trunk — Milwaukee Car Ferry Company
Grand Trunk Western Railroad Company

La Compagnie des Chemins de fer Nationaux est en outre chargée d'exploiter les Chemins de fer du gouvernement canadien comme partie de son réseau.

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Les états financiers et statistiques en français commencent en page 43.

Consolidated Balance Sheet as at December 31

Assets		1973	1972
Current Assets			
Cash	\$ 6,444,078	\$ 10,708,410	
Accounts receivable	205,694,025	162,397,820	
Material and supplies	93,328,399	82,545,126	
Other current assets	84,076,877	48,007,777	
	389,543,379	303,659,133	
Insurance Fund		11,077,967	9,801,692
Investments in Affiliated Companies not Consolidated	Air Canada	382,819,500	382,819,500
	Jointly operated companies	56,270,275	51,867,272
		439,089,775	434,686,772
Property Investment	Road	3,223,278,458	3,121,201,057
	Equipment	1,563,177,818	1,574,127,256
	Other physical properties	189,064,954	174,075,997
		4,975,521,230	4,869,404,310
	Less recorded depreciation	1,452,921,933	1,392,612,350
		3,522,599,297	3,476,791,960
Other Assets and Deferred Charges	Other investments	5,836,559	5,807,283
	Prepayments	2,332,011	3,950,762
	Unamortized discount on long term debt	6,801,314	7,812,540
	Other assets	2,341,852	2,509,139
	Deferred charges	29,565,434	25,549,505
		46,877,170	45,629,229
		\$4,409,187,588	\$4,270,568,786

Auditors' Report

To The Honourable The Minister of Transport,
Ottawa, Canada.

We have examined the consolidated balance sheet of the Canadian National Railway System as at December 31, 1973 and the consolidated statements of income and source and application of funds for the year then ended. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion, except that depreciation was not recorded in earlier years as referred to in note 3, these consolidated financial statements are properly drawn up so as to give a true and fair view of the state of affairs of the System as at December 31, 1973 and the results of its operations and the source and application of its funds for the year then ended, in accordance with generally accepted accounting

principles. Further, in our opinion, except for the change to equity accounting for investments in jointly operated companies referred to in note 2 and with which we concur, such accounting principles have been applied on a basis consistent with that of the preceding year.

Also, in our opinion, proper books of account have been kept and the transactions that have come to our notice have been within the powers of the System.

COOPERS & LYBRAND,
Chartered Accountants.

PEAT, MARWICK, MITCHELL & CO.,
Chartered Accountants.

April 26, 1974.

Consolidated Balance Sheet as at December 31

Liabilities		1973	1972
Current Liabilities			
Bank loans	\$ 106,000,000	\$ 49,000,000	
Accounts payable	185,933,358	139,975,031	
Accrued charges	84,266,184	69,888,135	
Other current liabilities	32,017,726	22,610,005	
	408,217,268	281,473,171	
Provision for Insurance		11,077,967	9,801,692
Other Liabilities and Deferred Credits		67,611,003	57,399,730
Long term Debt			
Bonds	805,498,264	811,555,764	
Government of Canada loans	1,088,897,514	1,082,452,857	
	1,894,395,778	1,894,008,621	
Shareholders' Equity			
Government of Canada			
6,000,000 shares of no par value capital stock of Canadian National Railway Company	359,963,017	359,963,017	
1,235,180,591 shares of 4% preferred stock of Canadian National Railway Company	1,235,180,591	1,235,180,591	
Capital investment of Government of Canada in the Canadian Government Railways	428,396,779	428,396,779	
	2,023,540,387	2,023,540,387	
Capital Stock of Subsidiary Companies owned by Public			
	4,345,185	4,345,185	
	2,027,885,572	2,027,885,572	
	\$4,409,187,588	\$4,270,568,786	

S. D. H. Thomas,
Comptroller.

Notes to Consolidated Financial Statements

Note 1: Material and Supplies

The inventory has been priced at laid down cost based on weighted average cost for ties, rails and fuel, latest invoice price for new materials in general stores and at

estimated utility or sales value for usable second hand, obsolete and scrap materials.

Note 2: Investments in Affiliated Companies not Consolidated

Air Canada —

Canadian National owns all of the issued capital stock of Air Canada. Air Canada reports directly to the Government of Canada through the Minister of Transport. Its accounts are published separately and are not consolidated with those of Canadian National, and equity accounting has not been applied. The composition of Canadian National's investment in Air Canada, which is carried at cost, is:

Capital Stock	\$ 5,000,000
Debentures	95,086,000
Advances	282,733,500
	\$382,819,500

Jointly Operated Companies —

Effective January 1, 1973, Canadian National adopted equity accounting for its investments in jointly-operated companies, where appropriate. Investments in the

remaining companies are carried at an aggregate amount of \$3,540,500. Canadian National's equity in the net income of companies accounted for on the equity basis included in other income in 1973 was \$5,402,851 of which \$4,820,161 represents Canadian National's equity in retained earnings of these companies accumulated to December 31, 1972. The investments in jointly-operated companies as at December 31, 1973 are:

Chicago & Western Indiana Railroad Company	\$ 8,552,775
The Detroit & Toledo Shore Line Railroad Company	6,397,161
Northern Alberta Railways Company	25,340,000
The Toronto Terminals Railway Company	9,449,750
Other	6,530,589
	\$56,270,275

Note 3: Property Investment

Additions since January 1, 1923 have been recorded at cost and properties and equipment brought into the System at January 1, 1923 are included at the values appearing in the books of the several railways now comprised in the System to the extent that these have not been retired or replaced.

Depreciation on Canadian Lines: Depreciation accounting as adopted for equipment in 1940, for hotel properties in 1954 and for track and road structures and all other physical properties except land in 1956 has

been continued in 1973. The depreciation rates used are based on the estimated service life of the properties but do not provide for depreciation which was not recorded in prior years under the replacement and retirement accounting principles then in force.

Depreciation on U.S. Lines: Replacement accounting for track and depreciation accounting for equipment and other property except land have been continued in accordance with the regulations of the Interstate Commerce Commission.

Note 4: Capital Stock

(a) The capital stock of the Canadian National Railway Company (other than the four percent preferred stock) and the capital investment of Her Majesty in the Canadian Government Railways are included in the net debt of Canada and disclosed in the historical record of government assistance to railways as shown in the Public Accounts of Canada.

(b) By the enactment on April 25, 1974 of the Canadian National Railways Financing and Guarantee Act, 1973, further purchases by the Government of Canada of four per cent preferred stock of the Company aggregating \$84,496,621 were authorized and required to be made in respect of the years 1972 and 1973.

Note 5: Pension Funds

The Company is liquidating the unfunded liabilities under its Pension Plans by making annual payments of both principal and interest as required by the Pension Benefits Standards Act. These payments have been charged to

System expenses. As at December 31, 1973, based on the latest actuarial reviews, the unfunded liabilities, aggregating \$702,255,137, are being liquidated by annual payments through September 30, 2027.

Note 6: Long-term Debt

	Rate %	Maturity (See Notes)		Currency in which Payable	Outstanding as at December 31	
					1973	1972
Bonds	3 3/4	Feb. 1, 1974	(a) Canadian National 20 Year Bonds	Canadian	\$ 200,000,000	\$ 200,000,000
	2 3/4	June 15, 1975	(b) Canadian National 25 Year Bonds	U.S.	6,000,000	6,000,000
	5	May 15, 1977	(c) Canadian National 18 Year Bonds	Canadian	74,438,500	75,706,000
	4	Feb. 1, 1981	Canadian National 23 Year Bonds	Canadian	300,000,000	300,000,000
	5 3/4	Jan. 1, 1985	(c) Canadian National 25 Year Bonds	Canadian	86,032,000	87,977,000
	5	Oct. 1, 1987	(c) Canadian National 27 Year Bonds	Canadian	137,004,000	139,849,000
	5 1/2	Perpetual	Buffalo and Lake Huron 1st Mortgage Bonds	Sterling	795,366	795,366
	5 1/2	Perpetual	Buffalo and Lake Huron 2nd Mortgage Bonds	Sterling	1,228,398	1,228,398
	Total Bonds				805,498,264	811,555,764
Government of Canada Loans	Canadian Government Railways: Advances for Working Capital			Canadian	16,983,762	16,983,762
	Financing and Guarantee Acts: Loans			Canadian	252,370,252	245,925,595
	Refunding Act, 1955: Loans for Debt Redemption			Canadian	819,543,500	819,543,500
	Total Government of Canada Loans				1,088,897,514	1,082,452,857
	Total Long Term Debt				\$1,894,395,778	\$1,894,008,621

Notes: (a) Refinanced February 1, 1974 under the Refunding Act, 1955 by a Government of Canada Loan having a five-year term with interest at 7 3/8 % per annum.

(b) Callable at par.
(c) Amounts of 1/2 % may be purchased quarterly through Purchase Funds operated under the conditions of each issue.

Note 7: Subsidies

- (a) Carload freight services revenues include \$27,000,000 receivable from the Government of Canada in respect of partial compensation for revenues foregone due to not implementing general rate increases in 1973.
- (b) Payments under the Railway Act include amounts paid by the Government of Canada under authority of

that Act in respect of certain uneconomic operations, services, and prescribed rates (At & East) which railways are thereby required to maintain. Claims cannot, in all cases, be filed before the end of the year in which the related losses occurred. The amounts are recognized in the accounts when they are approved for payment.

Note 8: Major Commitments

- (a) Rental commitments under railway rolling stock lease arrangements for varying periods through to 1993 amount to approximately \$495 million.
- (b) Canadian National Railway Company has undertaken to guarantee the payment of principal and interest

on a series of promissory notes which may be issued by Air Canada up to an aggregate principal amount of £13,000,000 sterling. The principal amount of the guaranteed notes outstanding as at December 31, 1973 was £12,142,062.

Consolidated Income Statement for the Year Ended December 31

		1973	1972
Railway Operating Revenues	Carload freight services	\$ 1,021,334,774	\$ 939,567,704
	Express and intermodal services	152,442,913	143,557,548
	Passenger services	55,630,169	66,755,084
	All other services	77,865,929	66,495,998
	Payments under the Railway Act	93,566,155	40,742,079
	Total Railway Operating Revenues	1,400,839,940	1,257,118,413
Railway Operating Expenses	Road maintenance	212,818,240	195,256,833
	Equipment maintenance	246,579,040	234,582,933
	Transportation	548,431,667	507,368,025
	Sales	32,717,600	30,642,222
	Miscellaneous operations	85,558,053	66,492,352
	General	155,820,313	116,408,760
	Taxes	55,832,158	52,152,396
	Equipment and joint facility rents	37,368,486	30,347,151
	Total Railway Operating Expenses	1,375,125,557	1,233,250,672
	Net Railway Operating Income	25,714,383	23,867,741
Other Income	Net income (expense) from:		
	Telecommunications department	16,998,510	17,012,227
	Hotels	4,403,949	3,162,433
	Separately operated trucking companies	3,354,274	2,464,306
	Other sources	(1,965,567)	1,750,488
	Total Other Income	22,791,166	24,389,454
	Net Income before Interest on Debt	48,505,549	48,257,195
Interest Charges	Total interest on debt	91,707,388	86,955,574
	Less interest received on loans to Air Canada	21,877,784	20,875,908
	Net Interest on Debt	69,829,604	66,079,666
	Deficit	\$ 21,324,055	\$ 17,822,471

Source and Application of Funds for the Year Ended December 31

		1973	1972
	Working Capital as at beginning of year	\$ 22,185,962	\$ 50,634,022
Source of Funds			
	Provision for depreciation	130,217,075	126,399,029
	Government of Canada in respect of deficit for the year	21,324,055	17,822,471
	Retained proceeds from properties retired	17,660,561	14,815,553
	Temporary government loans, as authorized by CNR Refunding Act 1955, for payment of outstanding securities of Canadian National at maturity	—	100,000,000
	Temporary government loans, as authorized by CNR Financing and Guarantee Acts of 1941 and 1942, for purchase of unmatured securities of Canadian National, as required by conditions of their issue	6,444,657	4,257,968
	Other (net)	5,352,231	7,295,128
		180,998,579	270,590,149
Application of Funds			
	Additions to property investment	193,684,973	173,149,242
	Investments in affiliated companies	791,902	1,322,996
	Deficit for the year	21,324,055	17,822,471
	Retirement of matured securities of Canadian National	—	100,000,000
	Purchase of unmatured securities of Canadian National, as required by conditions of their issue	6,057,500	6,743,500
		221,858,430	299,038,209
	Decrease in Working Capital	40,859,851	28,448,060
	Working Capital (Deficiency) as at end of year	\$ (18,673,889)	\$ 22,185,962

Note:

Certain figures for 1972 have been reclassified for
comparative purposes.

Railway Equipment

On Hand Dec. 31, 1973
Owned and Leased

Motive Power Equipment	Diesel electric units	2,191
	Electric locomotives	14
	Generator units	92
	Booster units	15
	Total	2,312
Freight Equipment	Box, flat and stock cars	72,594
	Refrigerator cars	4,128
	Gondola and hopper cars	28,449
	Caboose and other cars	3,611
	Total	108,782
Passenger Equipment	Coach cars	441
	Sleeping, meal service and club cars	465
	Baggage, mail and express cars	575
	Other cars in passenger service	97
	Total	1,578
Work Equipment	Units in work service	8,320
Floating Equipment	Car ferries, tugs and barges	9

Operated Mileage as at December 31, 1973

		Owned	Leased	Trackage Rights	Total
Operated Road Mileage — first main track	Atlantic Region	3,707	1	81	3,789
	St. Lawrence Region (including New England Lines)	3,766	7	6	3,779
	Great Lakes Region	3,245	—	12	3,257
	Prairie Region (including Duluth, Winnipeg and Pacific)	8,131	—	6	8,137
	Mountain Region	4,551	261	73	4,885
	Grand Trunk Western Lines	879	9	58	946
	Central Vermont Lines	303	—	59	362
Total		24,582	278	295	25,155
	Lines in Canada	22,997	262	175	23,434
	Lines in United States	1,585	16	120	1,721
Operated Mileage — all tracks	First main track	24,582	278	295	25,155
	All other main tracks	1,192	—	76	1,268
	Spurs, sidings and yard tracks	7,801	50	1,947	9,798
Total All Tracks		33,575	328	2,318	36,221

Statistics of Rail-Line Operations

		1973	1972 or (Decrease)	% Increase
Freight	Revenue ton miles—carload	62,173,824,000	62,354,473,000	(0.3)
	Averages:			
	Revenue per ton	\$ 8.58	8.15	5.3
	Revenue per ton mile	¢ 1.600	1.507	6.2
	Miles hauled per revenue ton	556	560	(0.7)
	Cars per train—loaded	34.5	35.2	(2.0)
	Cars per train—empty	27.1	27.0	0.4
	Net tons per loaded car	49.6	47.7	4.0
	Net tons per train	1,713	1,676	2.2
	Gross tons per train	3,414	3,356	1.7
	Gross ton miles per train hour	79,201	78,005	1.5
	Train speed—miles per hour	23.2	23.2	—
Express and intermodal	Express shipments handled	8,205,724	8,894,312	(7.7)
	Revenue piggyback trailers handled	62,846	66,018	(4.8)
	Containers handled—import/export (20 ft. equivalent units)	165,040	150,189	9.9
Passenger	Revenue passengers carried	10,137,804	12,008,461	(15.6)
	Revenue passenger miles	1,194,119,993	1,544,632,927	(22.7)
	Averages:			
	Revenue per passenger	\$ 5.49	5.56	(1.3)
	Revenue per passenger mile	¢ 4.659	4.322	7.8
	Passengers per car	16.1	17.7	(9.0)
	Average passenger journey—miles	117.8	128.6	(8.4)
Diesel Units	Miles per unit day	180.2	186.8	(3.5)
		1973	1972	Increase or (Decrease)
				Tons %
Revenue Tonnage	Agricultural products	15,486,663	18,422,731	(2,936,068) (15.9)
	Animals and animal products	380,888	449,777	(68,889) (15.3)
	Mine products	38,434,294	38,367,281	67,013 0.2
	Forest products	14,576,306	13,696,198	880,108 6.4
	Manufactures and miscellaneous	47,077,379	44,374,521	2,702,858 6.1
	Total Carload Freight	115,955,530	115,310,508	645,022 0.6

Statistics of Rail-Line Operations

		1973	1972	% Increase or (Decrease)
Train Miles	Freight service	35,185,961	36,875,376	(4.6)
	Express service	6,766,995	5,844,984	15.8
	Passenger service	10,966,689	11,925,369	(8.0)
	Work service	1,825,160	2,281,517	(20.0)
	Total Train Miles	54,744,805	56,927,246	(3.8)
Motive Power Unit Miles	Freight service	86,033,072	87,190,638	(1.3)
	Express service	18,352,942	14,558,049	26.1
	Passenger service	24,222,864	26,855,856	(9.8)
	Yard service	18,403,298	19,201,609	(4.2)
	Work service	2,951,890	3,537,841	(16.6)
Total Motive Power Unit Miles		149,964,066	151,343,993	(0.9)
Car Miles	Freight:			
	Loaded	1,311,753,777	1,348,189,996	(2.7)
	Empty	1,012,062,120	1,041,980,116	(2.9)
	Caboose	44,015,647	45,031,429	(2.3)
		2,367,831,544	2,435,201,541	(2.8)
	Express and intermodal:			
	Loaded	206,074,451	207,071,273	(0.5)
	Empty	9,195,241	9,442,068	(2.6)
		215,269,692	216,513,341	(0.6)
	Passenger:			
	Coach and combination	34,943,787	41,564,338	(15.9)
	Sleeping and club	29,497,902	30,233,377	(2.4)
	Meal service	6,214,292	11,958,828	(48.0)
	Other	19,402,679	21,980,803	(11.7)
		90,058,660	105,737,346	(14.8)
	Work Service	3,495,670	4,397,011	(20.5)
	Total Car Miles	2,676,655,566	2,761,849,239	(3.1)
Ton Miles	Freight and Express:			
	Gross ton miles	136,401,171,000	137,043,537,000	(0.5)
	Net ton miles	67,661,804,000	68,043,799,000	(0.6)
	Revenue ton miles	66,152,094,316	66,217,997,845	(0.1)

Pension Trust Funds - Statement of Financial Position as at December 31

	1973	1972
Investments		
Bonds — at amortized value, including deferred amounts arising from exchanges made to improve yields (quoted market value 1973 — \$281,572,200)	\$ 341,015,145	\$ 335,439,579
Mortgages and Loans, secured by real estate, of \$260,828,963 — at amortized value and real estate investments of \$3,477,147 — at cost (see Note)	264,306,110	254,484,484
Equities — at cost (quoted market value 1973 — \$401,508,900)		
— Stocks	\$322,585,058	
— Convertible debentures	9,519,290	
— Funds temporarily invested pending purchase of stocks	<u>60,415,500</u>	337,012,046
Short term investments — at cost	392,519,848	36,233,445
	36,233,445	13,362,421
	1,034,074,548	940,298,530
Cash in banks	85,021	395,169
Account Receivable — Canadian National Railways	3,711,498	2,273,543
Accrued interest and other assets	11,974,009	7,646,003
	1,049,845,076	950,613,245
Amount required from the Company for funding in accordance with the Pension Benefits Standards Act, to be liquidated by annual payments to September 30, 2027		
— Balance, beginning of year	503,632,287	396,656,712
— Add increases during year	208,470,000	111,555,000
— Deduct principal payments	(9,847,150)	(4,579,425)
— Balance, end of year	702,255,137	503,632,287
	\$1,752,100,213	\$1,454,245,532

Auditors' Report

To the Trustee,
Canadian National Railways Pension Funds.

We have examined the statement of financial position of the Pension Trust Funds of Canadian National Railways as at December 31, 1973. Our examination included a review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances. The actuarial liability for pensions is the subject of a separate certificate of independent actuaries which accompanies the statement of financial position, the last triennial actuarial valuation having been made as of December 31, 1971.

In our opinion, based on our examination and the actuarial certificate, this financial statement is properly drawn up so as to give a true and fair view of the state of affairs of the Pension Trust Funds as at

December 31, 1973 and the results of their operations for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Also, in our opinion, proper books of account have been kept and the transactions that have come under our notice have been within the powers of the Trustee.

COOPERS & LYBRAND,
Chartered Accountants.

PEAT, MARWICK, MITCHELL & CO.,
Chartered Accountants.

April 26, 1974.

Pension Trust Funds - Statement of Financial Position as at December 31

	1973	1972
Actuarial Liability for Pensions		
Balance, beginning of Year	\$1,454,245,532	\$1,267,414,726
Additions during Year		
Increases in unfunded liability for pensions resulting from		
— Triennial actuarial valuation as at December 31, 1971	—	47,470,000
— Actuarial valuation of the cost of pension plan changes	197,300,000	44,905,000
— Actuarial valuation of the cost of increases in pensions of existing pensioners	11,170,000	19,180,000
	208,470,000	111,555,000
Contributions by employees on account of		
— Current service	36,906,739	34,572,497
— Prior years' service	5,963,615	5,771,511
	42,870,354	40,344,008
Contributions by the Company, including principal payments	\$87,686,644	
Principal payments applied to unfunded liability	9,847,150	77,839,494
Net earnings on investments	50,010,249	49,144,802
	170,720,097	60,803,818
	1,833,435,629	150,292,628
Deductions during Year		
Pensions paid	75,358,688	70,419,462
Refunds on termination of service	5,976,728	4,597,360
	81,335,416	75,016,822
Balance, end of Year	\$1,752,100,213	\$1,454,245,532

Note: Outstanding commitments to purchase mortgages and real estate investments amounted to \$95,218,004 at December 31, 1973.

S. D. H. Thomas,
Comptroller.

Actuarial Certificate

To the Trustee,
Canadian National Railways Pension Funds.

This is to certify that the liability for pensions shown in the statement of financial position of the Pension Trust Funds of Canadian National Railways as at December 31, 1973, amounting to \$1,752,100,213., in my opinion, represented adequate provision for the accumulated

liabilities for pensions then approved and in force, pensions awaiting approval and pensions accrued to the above date in respect of employees then in service under the 1935 and 1959 Plans, excluding pensions granted under prior Plans.

Cyril J. Woods,
Fellow of the Canadian Institute of Actuaries.

William M. Mercer Limited,
Montreal, February 22, 1974.

A 25-Year Synoptical History of the Canadian National Railways

Year	Gross Revenues	Railway Operating Revenues	Railway Operating Expenses	Net Railway Operating Profit or (Loss)	Other Income	Surplus or (Deficit) before Interest Charges	Interest on Debt	Surplus or (Deficit)	Freight Revenue Ton Miles	Freight Revenue per Ton Mile	Revenue Passenger Miles	Passenger Services Revenue per Passenger Mile	Average Number of Employees
	Millions	Thousands	Thousands	Thousands	Thousands	Thousands	Thousands	Thousands	Millions	¢	Millions	¢	Passenger Miles
1949	\$509.4	\$491,478	\$484,728	\$ 6,750	\$ (161)	\$ 6,589	\$ 48,632	\$ (42,043)	30,922	1,276	1,621	3,167	116,057
1950	562.6	543,275	502,252	41,023	3,138	44,161	47,422	(3,261)	31,988	1,394	1,408	3,356	116,347
1951	634.1	612,802	585,615	27,187	5,958	33,145	48,177	(15,032)	36,435	1,369	1,611	3,489	124,608
1952	684.5	661,349	640,233	21,116	4,441	25,557	25,415	142	38,430	1,397	1,635	3,566	131,297
1953	707.7	680,669	660,248	20,421	9,199	29,620	29,376	244	36,678	1,509	1,539	3,610	130,109
1954	652.1	623,552	623,965	(413)	4,182	3,769	32,527	(28,758)	32,882	1,529	1,472	3,628	122,237
1955	693.9	664,613	630,140	34,473	9,249	43,722	33,004	10,718	35,677	1,511	1,464	3,662	119,430
1956	785.7	754,931	710,977	43,954	13,906	57,860	31,783	26,077	41,935	1,461	1,501	3,758	126,639
1957	764.4	732,427	735,679	(3,252)	10,651	7,399	36,972	(29,573)	36,674	1,601	1,499	3,873	124,620
1958	716.3	680,993	698,327	(17,334)	12,264	(5,070)	46,521	(51,591)	35,077	1,554	1,269	3,980	113,086
1959	751.9	712,976	719,000	(6,024)	11,234	5,210	48,798	(43,588)	35,542	1,613	1,272	3,927	111,538
1960	723.4	663,214	681,692	(18,478)	12,004	(6,474)	61,023	(67,497)	34,011	1,547	1,208	3,990	104,155
1961	745.5	677,380	693,605	(16,225)	11,393	(4,832)	62,476	(67,308)	34,723	1,480	1,076	4,038	99,564
1962	772.1	701,623	707,442	(5,819)	19,398	13,579	62,498	(48,919)	35,595	1,487	1,044	4,212	97,922
1963	800.0	725,181	720,170	5,011	16,179	21,190	64,204	(43,014)	40,171	1,375	1,189	3,730	92,571
1964	864.2	782,632	775,175	7,457	16,477	23,934	62,660	(38,726)	44,516	1,355	1,613	3,212	93,194
1965	914.7	827,292	817,382	9,910	18,635	28,545	61,960	(33,415)	46,131	1,385	1,782	3,274	93,438
1966	998.6	906,142	881,874	24,268	15,841	40,109	64,702	(24,593)	49,643	1,376	1,995	3,382	92,604
1967	1,049.9	945,213	942,444	2,769	26,414	29,183	65,052	(35,869)	48,781	1,390	2,495	3,363	93,060
1968	1,072.7	961,869	943,140	18,729	22,545	41,274	70,451	(29,177)	49,664	1,428	2,046	3,452	85,240
1969	1,133.4	1,014,257	995,865	18,392	31,167	49,559	74,205	(24,646)	51,762	1,502	1,837	3,716	84,388
1970	1,167.7	1,042,353	1,027,633	14,720	31,072	45,792	75,501	(29,709)	56,049	1,448	1,738	3,741	82,442
1971	1,275.9	1,140,788	1,119,440	21,348	22,882	44,230	68,498	(24,268)	61,430	1,487	1,675	3,838	81,744
1972	1,405.8	1,257,118	1,233,250	23,868	24,389	48,257	66,079	(17,822)	66,218	1,507	1,545	4,322	82,095
1973	1,566.7	1,400,840	1,375,126	25,714	22,791	48,505	69,829	(21,324)	66,152	1,600	1,194	4,659	81,700

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Bilan consolidé au 31 décembre

Actif

		1973	1972
Actif à court terme			
Encaisse	\$ 6,444,078	\$ 10,708,410	
Débiteurs	205,694,025	162,397,820	
Fournitures et approvisionnements	93,328,399	82,545,126	
Divers	84,076,877	48,007,777	
	389,543,379	303,659,133	
Caisse d'assurances		11,077,967	9,801,692
Participations — compagnies affiliées non consolidées		382,819,500	382,819,500
Air Canada	56,270,275	51,867,272	
Entreprises en exploitation conjointe			
	439,089,775	434,686,772	
Immobilisations			
Installations fixes	3,223,278,458	3,121,201,057	
Matériel	1,563,177,818	1,574,127,256	
Divers	189,064,954	174,075,997	
	4,975,521,230	4,869,404,310	
Moins amortissement comptabilisé	1,452,921,933	1,392,612,350	
	3,522,599,297	3,476,791,960	
Autres éléments d'actif et charges différées			
Investissements divers	5,836,559	5,807,283	
Frais payés d'avance	2,332,011	3,950,762	
Prime de remboursement non amortie — dette à long terme	6,801,314	7,812,540	
Autres éléments d'actif	2,341,852	2,509,139	
Charges différées	29,565,434	25,549,505	
	46,877,170	45,629,229	
	\$4,409,187,588	\$4,270,568,786	

Rapport des vérificateurs

A l'honorable Ministre des Transports,
Ottawa, Canada.

Nous avons examiné le bilan consolidé des Chemins de fer Nationaux du Canada au 31 décembre 1973, ainsi que les résultats consolidés et le tableau de provenance et d'affectation des fonds de l'exercice clos à cette date. Notre examen a notamment comporté l'étude générale des méthodes comptables et les sondages des livres et des pièces justificatives que nous avons jugés nécessaires en l'occurrence.

A notre avis, compte tenu de la note 3 relative à l'amortissement non comptabilisé d'exercices passés, ces états financiers consolidés ont été établis de manière à présenter un exposé fidèle de la situation financière des Chemins de fer Nationaux au 31 décembre 1973, ainsi que des résultats et de la provenance et de l'affectation des fonds de l'exercice clos à cette date et sont conformes aux principes comptables généralement admis. De plus, compte tenu de la note 2 relative à l'adoption de la comptabilisation à la valeur de consolidation pour les partici-

pations dans des entreprises en exploitation conjointe, que nous approuvons, nous estimons que ces principes comptables ont été appliqués suivant les mêmes modalités que durant l'exercice précédent.

Nous estimons également que les Chemins de fer Nationaux du Canada ont tenu les livres comptables voulus et n'ont pas excédé leurs compétences en procédant aux opérations dont nous avons pris connaissance.

COOPERS & LYBRAND,
Comptables agréés.

PEAT, MARWICK, MITCHELL & Cie,
Comptables agréés.

le 26 avril 1974

Bilan consolidé au 31 décembre

Passif

		1973	1972
Passif à court terme	Emprunts bancaires	\$ 106,000,000	\$ 49,000,000
	Créanciers	185,933,358	139,975,031
	Charges courues	84,266,184	69,888,135
	Divers	32,017,726	22,610,005
		408,217,268	281,473,171
Provision pour assurances		11,077,967	9,801,692
Crédits différés et divers		67,611,003	57,399,730
Dette à long terme	Obligations	805,498,264	811,555,764
	Emprunts — Gouvernement du Canada	1,088,897,514	1,082,452,857
		1,894,395,778	1,894,008,621

Avoir des actionnaires

Gouvernement du Canada	6,000,000 d'actions sans valeur nominale de la Compagnie des Chemins de fer Nationaux du Canada	359,963,017	359,963,017
	1,235,180,591 actions privilégiées 4% de la Compagnie des Chemins de fer Nationaux du Canada	1,235,180,591	1,235,180,591
	Investissements dans les Chemins de fer du gouvernement canadien	428,396,779	428,396,779
		2,023,540,387	2,023,540,387
Capital-actions de filiales détenue par le public		4,345,185	4,345,185
		2,027,885,572	2,027,885,572
		\$4,409,187,588	\$4,270,568,786

Le Contrôleur,
S. D. H. Thomas.

Notes explicatives des états consolidés

1. Fournitures et approvisionnements

Les stocks ont été évalués au prix coûtant, calculé à partir de moyennes pondérées pour les rails, les traverses et le carburant, des dernières factures pour les

fournitures neuves et de la valeur estimative ou de revente pour les fournitures usagées, désuètes ou réformées.

2. Participation dans des compagnies affiliées non consolidées

Air Canada —

Les Chemins de fer Nationaux détiennent la totalité du capital-actions émis d'Air Canada. Cette compagnie relève directement du Gouvernement du Canada par l'entremise du ministre des Transports. Ses comptes sont publiés séparément et, n'étant pas consolidés avec ceux du CN, ne sont pas comptabilisés à la valeur de consolidation. La participation des Chemins de fer Nationaux dans Air Canada est comptabilisée par le CN au prix coûtant et se décompose comme suit:

Capital-actions	\$ 5,000,000
Obligations non garanties	95,086,000
Avances	282,733,500
\$382,819,500	

Entreprises en exploitation conjointe —

En date du 1^{er} janvier 1973, les Chemins de fer Nationaux ont adopté la méthode de comptabilisation à la valeur de consolidation, pour leur participation dans des entreprises en exploitation conjointe, dans les cas appropriés. Les placements dans les autres entreprises sont comptabilisés pour un montant global de \$3,540,500.

3. Immobilisations

La valeur comptable des immeubles et du matériel incorporés au Groupe le 1^{er} janvier 1923 et qui n'ont été ni désaffectés ni remplacés par la suite est celle qui figurait dans les livres des compagnies constitutantes, et les acquisitions postérieures ont été comptabilisées au prix coûtant.

Amortissement des lignes canadiennes: la comptabilité d'amortissement utilisée depuis 1940 pour le matériel, depuis 1954 pour les hôtels et depuis 1956 pour les voies, installations fixes et autres biens à l'exception des terrains, a de nouveau été utilisée en 1973. Les taux

En 1973, le poste "Autres revenus nets" comprend un montant de \$5,402,851, qui représente la part revenant aux Chemins de fer Nationaux du revenu net des entreprises ayant fait l'objet de la comptabilisation à la valeur de consolidation. De cette somme, \$4,820,161 représentent la part de la Compagnie dans les bénéfices non répartis de ces entreprises au 31 décembre 1972. Les participations dans des entreprises en exploitation conjointe, au 31 décembre 1973, sont les suivantes:

Chicago & Western Indiana Railroad Company	\$ 8,552,775
The Detroit & Toledo Shore Line Railroad Company	6,397,161
Northern Alberta Railways Company	25,340,000
The Toronto Terminals Railway Company	9,449,750
Autres	6,530,589
	\$56,270,275

d'amortissement pratiqués sont fonction de la durée probable d'utilisation des biens mais ne tiennent pas compte de l'amortissement non comptabilisé au titre des exercices antérieurs alors qu'on pratiquait une comptabilité de remplacement et de désaffectation.

Amortissement des lignes américaines: la comptabilité de remplacement a de nouveau été utilisée pour les voies et la comptabilité d'amortissement pour le matériel et les autres biens à l'exception des terrains, conformément aux règlements de l'«Interstate Commerce Commission».

4. Capital-actions

a) Le capital-actions des Chemins de fer Nationaux du Canada (à l'exclusion des actions privilégiées 4%) et les investissements de Sa Majesté dans les Chemins de fer gouvernementaux sont inclus dans la dette publique nette du Canada et sont archivés au chapitre de l'aide aux chemins de fer tels qu'ils figurent dans les Comptes publics du Canada.

b) Par suite de l'adoption, le 25 avril 1974, de la Loi sur les Chemins de fer Nationaux du Canada (Financement et garantie), le gouvernement du Canada est autorisé à souscrire de nouvelles actions privilégiées 4% de la Compagnie pour une valeur de \$84,496,621, au titre des années 1972 et 1973.

5. Caisse de retraite

Afin de liquider les dettes actuarielles contractées au titre de ses régimes de retraite, la Compagnie se libère par annuités, conformément aux dispositions de la Loi sur les normes de prestations de pension. Ces versements

sont imputés aux dépenses du Réseau. Au 31 décembre 1973, ces dettes, d'après les dernières évaluations actuarielles, se montaient à \$702,255,137; elles seront liquidées par annuités d'ici le 30 septembre 2027.

6. Dette à long terme

	Taux %	Echéance (voir renvois)	Monnaie de paiement	En circulation le 31 décembre	
				1973	1972
Emprunts obligataires	3 3/4	1 ^{er} févr. 1974	a Canadian National — 20 ans	\$ can.	\$ 200,000,000
	2 3/4	15 juin 1975	b Canadian National — 25 ans	\$ É.-U.	6,000,000
	5	15 mai 1977	c Canadian National — 18 ans	\$ can.	74,438,500
	4	1 ^{er} févr. 1981	Canadian National — 23 ans	\$ can.	300,000,000
	5 3/4	1 ^{er} janv. 1985	c Canadian National — 25 ans	\$ can.	86,032,000
	5	1 ^{er} oct. 1987	c Canadian National — 27 ans	\$ can.	137,004,000
	5 1/2	Perpétuelles	Buffalo & Lake Huron (oblig. 1 ^{re} hypothèque)	£ Sterling	795,366
	5 1/2	Perpétuelles	Buffalo & Lake Huron (oblig. 2 ^e hypothèque)	£ Sterling	1,228,398
	Total			805,498,264	811,555,764
Emprunts — Gouvernement du Canada	Chemins de fer du gouvernement canadien: avances au fonds de roulement			\$ can.	16,983,762
	Lois de finance et de garantie			\$ can.	252,370,252
	Loi de 1955 sur le remboursement d'obligations			\$ can.	819,543,500
	Total			1,088,897,514	1,082,452,857
Total de la dette à long terme				\$1,894,395,778	\$1,894,008,621

Renvois: **a** Refinancé le 1^{er} février 1974 en vertu de la Loi de 1955 sur le remboursement d'obligations, au moyen d'un prêt à cinq ans du Gouvernement du Canada portant intérêt à 7 3/8 % par an.

b Rachetable à la valeur nominale
c Des tranches de 1/2 % peuvent être rachetées trimestriellement par les caisses de rachat suivant les modalités fixées lors de chaque émission.

7. Subventions

- Les recettes des services marchandises comprennent \$27,000,000 à recevoir du gouvernement du Canada à titre de compensation partielle pour le manque à gagner résultant de la non application d'une augmentation générale des tarifs en 1973.
- Les versements au titre de la Loi sur les chemins de fer comprennent les subventions du gouvernement

du Canada prévues par cette loi pour le maintien de certains services non rentables et de tarifs imposés (Atlantique et Maritimes). Les demandes ne peuvent en aucun cas être présentées avant la fin de l'année où les pertes correspondantes ont été enregistrées. Les montants réclamés apparaissent en comptabilité lorsque le paiement en est approuvé.

8. Engagements importants

- Les engagements relatifs à la location à bail de matériel roulant jusqu'en 1993 s'élèvent à environ \$495 millions.
- La Compagnie des Chemins de fer Nationaux du Canada s'est chargée de garantir le paiement, intérêt

et principal, d'une série de billets à ordre à émettre par Air Canada, à concurrence d'un montant global de £13,000,000. Au 31 décembre 1973, le total des billets en circulation était de £12,142,062.

Résultats consolidés pour l'exercice clos au 31 décembre

		1973	1972
Recettes de l'exploitation ferroviaire	Services marchandises	\$ 1,021,334,774	\$ 939,567,704
	Services messageries et intermodaux	152,442,913	143,557,548
	Services voyageurs	55,630,169	66,755,084
	Services divers	77,865,929	66,495,998
	Subvention—Loi sur les chemins de fer	93,566,155	40,742,079
	Total	1,400,839,940	1,257,118,413
Dépenses de l'exploitation ferroviaire	Entretien des installations fixes	212,818,240	195,256,833
	Entretien du matériel	246,579,040	234,582,933
	Transport	548,431,667	507,368,025
	Ventes	32,717,600	30,642,222
	Services divers	85,558,053	66,492,352
	Frais généraux	155,820,313	116,408,760
	Impôts	55,832,158	52,152,396
	Loyers de matériel et d'installations exploitées en commun	37,368,486	30,347,151
	Total	1,375,125,557	1,233,250,672
	Revenu net de l'exploitation ferroviaire	25,714,383	23,867,741
Autres revenus nets	Télécommunications	16,998,510	17,012,227
	Hôtels	4,403,949	3,162,433
	Entreprises autonomes de camionnage	3,354,274	2,464,306
	Divers (dépenses)	(1,965,567)	1,750,488
	Total	22,791,166	24,389,454
	Revenus nets, avant intérêts de la dette	48,505,549	48,257,195
Charges financières	Intérêts de la dette	91,707,388	86,955,574
	Moins: produit des prêts à Air Canada	21,877,784	20,875,908
	Charges financières nettes	69,829,604	66,079,666
	Déficit	\$ 21,324,055	\$ 17,822,471

Provenance et affectation des fonds pour l'exercice clos au 31 décembre

		1973	1972
	Fonds de roulement au début de l'exercice	\$ 22,185,962	\$ 50,634,022
Provenance des fonds			
Amortissement		130,217,075	126,399,029
Subvention d'équilibre: déficit de l'exercice		21,324,055	17,822,471
Produit de l'aliénation de biens désaffectés		17,660,561	14,815,553
Prêts temporaires du gouvernement, autorisés par la Loi de 1955 sur le remboursement d'obligations, pour le paiement des titres échus des Chemins de fer Nationaux		—	100,000,000
Prêts temporaires du gouvernement, autorisés par les Lois de finance et de garantie de 1941 et 1942, pour l'achat de titres non échus des Chemins de fer Nationaux, suivant les modalités fixées lors de l'émission		6,444,657	4,257,968
Divers (net)		5,352,231	7,295,128
		180,998,579	270,590,149
Affectation des fonds			
Immobilisations		193,684,973	173,149,242
Participation dans des compagnies affiliées		791,902	1,322,996
Déficit de l'exercice		21,324,055	17,822,471
Remboursements de titres échus des Chemins de fer Nationaux		—	100,000,000
Achat de titres non échus des Chemins de fer Nationaux, suivant les modalités fixées lors de l'émission		6,057,500	6,743,500
		221,858,430	299,038,209
	Diminution du fonds de roulement	40,859,851	28,448,060
	Fonds de roulement (négatif) à la fin de l'exercice	\$ (18,673,889)	\$ 22,185,962

Remarque: Certains chiffres de 1972 ont été modifiés dans un but de comparaison.

Parc de matériel

Au 31 décembre 1973
En propriété
ou en location

Matériel de traction	Locomotives diesel-électriques	2,191
	Locomotives électriques	14
	Unités génératrices	92
	Locomotives de renfort	15
	Total	2,312
Matériel marchandises	Wagons couverts, plats et à bestiaux	72,594
	Wagons frigorifiques	4,128
	Wagons tombereaux et trémies	28,449
	Fourgons de queue et véhicules divers	3,611
	Total	108,782
Matériel voyageurs	Voitures ordinaires	441
	Voitures lits, restauration et club	465
	Wagons-poste, fourgons à bagages et à messageries	575
	Divers	97
	Total	1,578
Matériel de travaux	Unités en service	8,320
Flotte	Traversiers, remorqueurs et péniches	9

Longueur (en milles) des lignes exploitées au 31 décembre 1973

		Exploitation directe	En location	Droit de passage	Total
Première voie principale	Région de l'Atlantique	3,707	1	81	3,789
	Région du Saint-Laurent (y compris les lignes de la Nouvelle-Angleterre)	3,766	7	6	3,779
	Région des Grands-Lacs	3,245	—	12	3,257
	Région des Prairies (y compris la Duluth, Winnipeg and Pacific)	8,131	—	6	8,137
	Région des Montagnes	4,551	261	73	4,885
	Grand Trunk Western	879	9	58	946
	Central Vermont	303	—	59	362
Total		24,582	278	295	25,155
Ensemble des voies	Lignes au Canada	22,997	262	175	23,434
	Lignes aux États-Unis	1,585	16	120	1,721
Total général		33,575	328	2,318	36,221

Statistiques de l'exploitation ferroviaire

		1973	1972	% d'augmen- tation ou de (diminution)
Marchandises	Tonnes-milles commerciales (wagons complets)	62,173,824,000	62,354,473,000	(0.3)
	Moyennes:			
	Recette par tonne transportée	\$ 8.58	8.15	5.3
	Recette par tonne-mille	¢ 1.600	1.507	6.2
	Parcours de la tonne commerciale (milles)	556	560	(0.7)
	Nombre de wagons chargés par train	34.5	35.2	(2.0)
	Nombre de wagons vides par train	27.1	27.0	0.4
	Tonnage net par wagon chargé	49.6	47.7	4.0
	Tonnage net par train	1,713	1,676	2.2
	Tonnage brut par train	3,414	3,356	1.7
	Tonnes-milles brutes par train-heure	79,201	78,005	1.5
	Vitesse des trains (milles/heure)	23.2	23.2	—
Messageries et services intermodaux	Nombre d'envois de messageries	8,205,724	8,894,312	(7.7)
	Remorques de Piggyback— trafic commercial	62,846	66,018	(4.8)
	Nombre de containers—import-export (en unités de 20 pi)	165,040	150,189	9.9
Voyageurs	Voyageurs taxés	10,137,804	12,008,461	(15.6)
	Voyageurs-milles taxés	1,194,119,993	1,544,632,927	(22.7)
	Moyennes:			
	Recette par voyageur	\$ 5.49	5.56	(1.3)
	Recette par voyageur-mille	¢ 4.659	4.322	7.8
	Nombre de voyageurs par voiture	16.1	17.7	(9.0)
	Parcours du voyageur (milles)	117.8	128.6	(8.4)
Diesels	Milles de parcours journalier (par unité)	180.2	186.8	(3.5)
				Augmentation (diminution)
		1973	1972	Tonnage
Trafic commercial (en tonnes)	Produits agricoles	15,486,663	18,422,731	(2,936,068) (15.9)
	Animaux et produits d'origine animale	380,888	449,777	(68,889) (15.3)
	Produits miniers	38,434,294	38,367,281	67,013 0.2
	Produits forestiers	14,576,306	13,696,198	880,108 6.4
	Produits ouvrés et divers	47,077,379	44,374,521	2,702,858 6.1
	Total (wagons complets)	115,955,530	115,310,508	645,022 0.6

Statistiques de l'exploitation ferroviaire

		1973	1972	% d'augmen- tation ou de (diminution)
Trains-milles	Services marchandises	35,185,961	36,875,376	(4.6)
	Services messageries	6,766,995	5,844,984	15.8
	Services voyageurs	10,966,689	11,925,369	(8.0)
	Trafic de service	1,825,160	2,281,517	(20.0)
	Total des trains-milles	54,744,805	56,927,246	(3.8)
Unités motrices-milles	Services marchandises	86,033,072	87,190,638	(1.3)
	Services messageries	18,352,942	14,558,049	26.1
	Services voyageurs	24,222,864	26,855,856	(9.8)
	Manoeuvres	18,403,298	19,201,609	(4.2)
	Trafic de service	2,951,890	3,537,841	(16.6)
	Total des unités motrices-milles	149,964,066	151,343,993	(0.9)
Wagons-milles	Marchandises:			
	Wagons chargés	1,311,753,777	1,348,189,996	(2.7)
	Wagons vides	1,012,062,120	1,041,980,116	(2.9)
	Fourgons de queue	44,015,647	45,031,429	(2.3)
		2,367,831,544	2,435,201,541	(2.8)
	Messageries et services Intermodaux:			
	Matériel chargé	206,074,451	207,071,273	(0.5)
	Matériel vide	9,195,241	9,442,068	(2.6)
		215,269,692	216,513,341	(0.6)
	Voyageurs:			
	Coachs et voitures mixtes	34,943,787	41,564,338	(15.9)
	Voitures lits et club	29,497,902	30,233,377	(2.4)
	Voitures de restauration	6,214,292	11,958,828	(48.0)
	Autres	19,402,679	21,980,803	(11.7)
		90,058,660	105,737,346	(14.8)
	Trafic de service	3,495,670	4,397,011	(20.5)
	Total des wagons-milles	2,676,655,566	2,761,849,239	(3.1)
Tonnes-milles	Marchandises et messageries:			
	Tonnes-milles brutes	136,401,171,000	137,043,537,000	(0.5)
	Tonnes-milles nettes	67,661,804,000	68,043,799,000	(0.6)
	Tonnes-milles commerciales	66,152,094,316	66,217,997,845	(0.1)

Situation financière des caisses fiduciaires de retraite au 31 décembre

	1973	1972
Placements		
Obligations — valeur amortie. Ce poste comprend des reports provenant de renouvellements de portefeuille effectués en vue d'améliorer le rendement (valeur marchande cotée en 1973 — \$281,572,200)	\$ 341,015,145	\$ 335,439,579
Hypothèques et prêts à nantissement immobilier, \$260,828,963 — valeur amortie, et placements immobiliers, \$3,477,147 — valeur d'achat (voir remarque)	264,306,110	254,484,484
Titres — valeur d'achat (valeur marchande cotée en 1973 — \$401,508,900)		
— Actions	\$322,585,058	
— Obligations non garanties convertibles	9,519,290	
— Fonds placés temporairement en prévision d'achats d'actions	60,415,500	392,519,848
Placements à court terme — valeur d'achat	<hr/> 36,233,445	337,012,046
	<hr/> 13,362,421	13,362,421
 Banques	1,034,074,548	940,298,530
Débiteur — Chemins de fer Nationaux du Canada	85,021	395,169
Intérêts et autres éléments d'actif	3,711,498	2,273,543
	11,974,009	7,646,003
	<hr/> 1,049,845,076	950,613,245
 Masse consolidable (à recevoir de la Compagnie) conformément à la Loi sur les normes des prestations de pension et qui sera liquidée par annuités d'ici le 30 septembre 2027		
— Solde en début d'exercice	503,632,287	396,656,712
— Plus augmentations en cours d'exercice	208,470,000	111,555,000
— Moins versements de principal	(9,847,150)	(4,579,425)
 — Solde en fin d'exercice	702,255,137	503,632,287
	<hr/> \$1,752,100,213	\$1,454,245,532

Rapport des vérificateurs

A l'administrateur,
Caisses fiduciaires de retraite des Chemins de fer Nationaux du Canada.

Nous avons examiné l'état financier des caisses fiduciaires de retraite des Chemins de fer Nationaux du Canada au 31 décembre 1973. Notre examen a notamment comporté l'étude générale des méthodes comptables et les sondages des livres et des pièces justificatives que nous avons jugés nécessaires en l'occurrence. L'obligation actuarielle est l'objet d'une attestation distincte d'actuaires indépendants qui accompagne la situation financière, la dernière évaluation triennale ayant été faite au 31 décembre 1971.

A la suite de notre examen et compte tenu de l'attestation de l'actuaire, nous estimons que l'état financier a été établi de manière à refléter fidèlement la situation desdites caisses au 31 décembre 1973 et les résultats de l'exercice clos à cette date, conformément aux principes

comptables généralement admis et appliqués selon les mêmes modalités qu'au cours de l'exercice précédent.

Nous estimons également que l'administrateur a tenu les livres comptables voulus et n'a pas excédé ses compétences en procédant aux opérations dont nous avons pris connaissance.

COOPERS & LYBRAND,
Comptables agréés.

PEAT, MARWICK, MITCHELL & Cie,
Comptables agréés.

le 26 avril 1974

Situation financière des caisses fiduciaires de retraite au 31 décembre

	1973	1972
Obligation actuarielle		
Solde en début d'exercice	\$1,454,245,532	\$1,267,414,726
Augmentations en cours d'exercice		
Accroissements de la dette actuarielle découlant des faits suivants:		
— évaluation triennale au 31 décembre 1971	—	47,470,000
— évaluation des modifications au régime de retraite	197,300,000	44,905,000
— évaluation des augmentations accordées aux retraités	11,170,000	19,180,000
	208,470,000	111,555,000
Cotisations du personnel:		
— courantes	36,906,739	34,572,497
— arriérées	5,963,615	5,771,511
	42,870,354	40,344,008
Contribution de la Compagnie, principal inclus	\$87,686,644	
Versements de principal applicables à la dette actuarielle	9,847,150	77,839,494
Revenu net des placements	50,010,249	49,144,802
	170,720,097	60,803,818
	1,833,435,629	1,529,262,354
Diminutions en cours d'exercice		
Retraites	75,358,688	70,419,462
Remboursements (départs)	5,976,728	4,597,360
	81,335,416	75,016,822
Solde en fin d'exercice	\$1,752,100,213	\$1,454,245,532

Remarque: Les engagements pris pour souscrire des hypothèques et effectuer des placements immobiliers s'élevaient à \$95,218,004 le 31 décembre 1973.

Le Contrôleur,
S. D. H. Thomas.

Attestation de l'actuaire

À l'administrateur,
Caisses fiduciaires de retraite des Chemins de fer Nationaux du Canada.

J'atteste par la présente que l'obligation actuarielle qui figure dans l'état financier des caisses fiduciaires de retraite des Chemins de fer Nationaux du Canada, au 31 décembre 1973, et qui s'élève à \$1,752,100,213., est à mon avis suffisante pour satisfaire aux engagements correspondant aux pensions déjà accordées et effectivement

versées, aux pensions en instance, ainsi qu'aux pensions prévues pour le personnel en activité à la date précitée, conformément aux régimes de retraite de 1935 et de 1959, à l'exclusion des pensions que prévoyaient les régimes antérieurs.

Cyril J. Woods,
Membre de l'Institut canadien des Actuaires.

William M. Mercer Limited,
Montréal, le 22 février 1974.

Rétrospective statistique des 25 dernières années

Exercice	Recettes brutes	Recettes expl. ferrov.	Dépenses expl. ferrov.	Profit (perte) net expl. ferrov.	Autres revenus	Bénéfice (déficit) avant charges financ.	Intérêts de la dette	Bénéfice (déficit)	Tonnes-milles commerciales	Produit moyen, tonne-mile	Produit moyen, voyageur-mille	Moyenne des effectifs
	Millions	Milliers	Milliers	Milliers	Milliers	Milliers	Milliers	Milliers	Millions	Millions	Millions	Millions
1949	\$509.4	\$491,478	\$484,728	\$ 6,750	\$ (161)	\$ 6,589	\$ 48,632	\$(42,043)	30,922	1,276	1,621	3,167
1950	562.6	543,275	502,252	41,023	3,138	44,161	47,422	(3,261)	31,988	1,394	1,408	3,356
1951	634.1	612,802	585,615	27,187	5,958	33,145	48,177	(15,032)	36,435	1,369	1,611	3,489
1952	684.5	661,349	640,233	21,116	4,441	25,557	25,415	142	38,430	1,397	1,635	3,566
1953	707.7	680,669	660,248	20,421	9,199	29,620	29,376	244	36,678	1,509	1,539	3,610
1954	652.1	623,552	623,965	(413)	4,182	3,769	32,527	(28,758)	32,882	1,529	1,472	3,628
1955	693.9	664,613	630,140	34,473	9,249	43,722	33,004	10,718	35,677	1,511	1,464	3,662
1956	785.7	754,931	710,977	43,954	13,906	57,860	31,783	26,077	41,935	1,461	1,501	3,758
1957	764.4	732,427	735,679	(3,252)	10,651	7,399	36,972	(29,573)	36,674	1,601	1,499	3,873
1958	716.3	680,993	698,327	(17,334)	12,264	(5,070)	46,521	(51,591)	35,077	1,554	1,269	3,980
1959	751.9	712,976	719,000	(6,024)	11,234	5,210	48,798	(43,588)	35,542	1,613	1,272	3,927
1960	723.4	663,214	681,692	(18,478)	12,004	(6,474)	61,023	(67,497)	34,011	1,547	1,208	3,990
1961	745.5	677,380	693,605	(16,225)	11,393	(4,832)	62,476	(67,308)	34,723	1,480	1,076	4,038
1962	772.1	701,623	707,442	(5,819)	19,398	13,579	62,498	(48,919)	35,595	1,487	1,044	4,212
1963	800.0	725,181	720,170	5,011	16,179	21,190	64,204	(43,014)	40,171	1,375	1,189	3,730
1964	864.2	782,632	775,175	7,457	16,477	23,934	62,660	(38,726)	44,516	1,355	1,613	3,212
1965	914.7	827,292	817,382	9,910	18,635	28,545	61,960	(33,415)	46,131	1,385	1,782	3,274
1966	998.6	906,142	881,874	24,268	15,841	40,109	64,702	(24,593)	49,643	1,376	1,995	3,382
1967	1,049.9	945,213	942,444	2,769	26,414	29,183	65,052	(35,869)	48,781	1,390	2,495	3,363
1968	1,072.7	961,869	943,140	18,729	22,545	41,274	70,451	(29,177)	49,664	1,428	2,046	3,452
1969	1,133.4	1,014,257	995,865	18,392	31,167	49,559	74,205	(24,646)	51,762	1,502	1,837	3,716
1970	1,167.7	1,042,353	1,027,633	14,720	31,072	45,792	75,501	(29,709)	56,049	1,448	1,738	3,741
1971	1,275.9	1,140,788	1,119,440	21,348	22,882	44,230	68,498	(24,268)	61,430	1,487	1,675	3,838
1972	1,405.8	1,257,118	1,233,250	23,868	24,389	48,257	66,079	(17,822)	66,218	1,507	1,545	4,322
1973	1,566.7	1,400,840	1,375,126	25,714	22,791	48,505	69,829	(21,324)	66,152	1,600	1,194	4,659



CN

AR40

"INOVIN"



news briefs

Halifax container traffic reaches 600,000 mark

Two days before the annual Port Day festivities held September 8 in Halifax, the Italian Line Americana delivered the 600,000th container to pass through Halterm, opened less than six years ago.

This Nova Scotian container port outperformed other eastern Canadian ports from January to July 1975. During that period, container tonnage reached 738,915; a total of 53,360 20-foot and 40-foot containers were handled.

Robert A. Bandeen, president and chief executive officer of CN, told Port Day visitors that he will join Nova Scotia's minister of development, George Mitchell, in Japan soon in a bid to get more container business for Halifax.

CN is a partner with the province in container-handling facilities in Halifax and provides the inland transportation system for the traffic.

"New traffic creates additional business for us," he said.

Dr. Bandeen explained that Halifax is now in the position where additional container-handling capacity will be needed soon for the business to grow.

"The need to get underway on new container facilities is urgent," he said. "If capacity should become a problem, potential new customers will not wait until you are ready to handle them."

He pointed out that Halifax needs to be completely prepared to meet the keener competition caused by inflation, the oil crisis and the precarious economic position of some of Canada's traditional trading partners.

Halifax is a regular port of call for

vessels carrying 1,500 containers. Nine shipping lines now move container traffic to and from Halifax.

CN manager heads Traffic Clubs International

J. M. Beaupré, national sales manager for CN's freight marketing department, has been elected to a one-year term as international president of Traffic Clubs International.

A native Montrealer, Mr. Beaupré has been with CN since 1940 except for service in the Canadian Army during World War II. He served as system manager — piggyback services before his present appointment in 1973.

Traffic Clubs International, founded in 1923, has more than 40,000 members representing industry and all modes of transportation.

Double-tracking underway for Alberta rail line

A \$9 million double-track program to increase CN rail capacity west of Edmonton was announced recently by C. F. Armstrong, CN regional vice-president.

The project will extend for 12 miles west of Edmonton, from the Calder yards to Spruce Grove, and will give CN 20 continuous miles of double track.

The section of rail line between Edmonton and Jasper is the common link for two of the railway's main lines through the Rockies.

A great deal of effort has been made since 1970 to expand the capacity of this line, said Mr. Armstrong. Work completed includes a major siding development program and an extensive new signaling system.

Interline agreement signed between CN and Amtrak

Canadian National and Amtrak have signed a special agreement to enable rail travelers from either Canada or the United States to purchase transportation on both national rail lines in a single transaction.

The interline agreement was announced by G. C. Campbell, CN's vice-president, passenger marketing, and Paul Reistrup, the president of Amtrak. It permits CN or Amtrak passengers to purchase tickets for transportation and accommodation from their point of departure in Canada or the United States, to any American or Canadian city served by Amtrak or CN.

CN and Amtrak reservation agents at central locations have access to the other company's computerized reservation system. Each accepts enquiries and provides information to the general public regarding services, fares and reservations over the other's lines.

Authorized travel agents can also sell rail transportation and accommodation over CN and Amtrak lines.

The railway officers said the agreement facilitates and encourages train travel and tourism between the United States and Canada — an important step in preparing for next year's bicentennial and Olympic activities.

CN serves Canada with its network of intercity and transcontinental passenger trains, buses in Newfoundland and operates ferry services on the east coast. Amtrak trains provide direct service to Montreal and to Vancouver, while Amtrak travelers to Port Huron or Detroit, Michigan, can cross the border to connect with CN trains at Sarnia and Windsor respectively.

A town called Syncrude?

Creston, B.C.; Neepawa, Manitoba; Charlemagne, Quebec; or Grand Bank, Newfoundland.

The population of those centres approximates the number of people who will be involved in construction of Syncrude's plant in Alberta's Athabasca Oil Sands.

And when the plant is completed and operating, the Canadian economy will have had an economic shot in the arm of approximately \$1½ billion — 70 per cent of the total investment in materials, expertise and manpower and woman-power.

Located 322 miles northeast of Edmonton, the Syncrude project requires a

mammoth construction plan, and getting the necessary materials from points across Canada — and sometimes other countries — is complex.

CN itself has a vital role in transportation of the essential material and in this issue we outline the facilities and personnel our company has at the ready for this project.

It's clear that there are growing concerns about supplies of fuel around the world. Our own minister of energy, mines and resources recently described Canada's policy as one of "enlightened self-interest." And one way to increase our own self-sufficiency is to find new ways to unlock the elusive bitumen trapped in the Alberta Oil Sands.

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That damned elusive bitumen

Getting the oil out of the Athabasca Oil Sands is complex, and CN is helping to do it.

The railway cars depart from the Port Arthur Ship Building Co. Ltd. in Thunder Bay, Ontario, with a cargo unfamiliar to most watchers.

That cargo? Huge, 20-foot diameter tumbler sections, from four to 10 feet long. Their destination? Mildred Lake, Alberta. Their purpose? An important role in the construction now underway at the Syncrude plant which, when completed, will extract a form of oil from the Athabasca Oil Sands.

Those sections are being assembled at the site to create a cylindrical tumbler in which the oil sands will receive their initial processing.

To make that delivery, normal flat cars were modified to incorporate a centre well allowing the 20-foot tumbler sections to be moved and to meet rail clearance limitations. The sections rode in the wells on slings at a height of only six inches above rail.

Modifications were designed by CN

freight marketing services and the cars were built in CN's Transcona Shops in Winnipeg.

For the next three years, CN will be playing a role in helping to transport millions of dollars worth of construction materials from eastern and western Canada and the U.S. to their destination in northern Alberta: Mildred Lake. Materials and equipment will also be moving from Europe and Asia.

Geologists differ on the origin of the Athabasca Oil Sands, though it is recorded that the first white man to see them was Peter Pond who canoed down the Athabasca River in 1778.

Ten years later explorer Alexander Mackenzie wrote in his journal:

The bitumen is in a fluid state, and when mixed with gum, or the resinous substance collected from the spruce fir, serves to gum the Indian's canoes. In its heated state it emits a smell like that of sea-coal...

From that time, the prospects of capturing the oil enticed many; perhaps the first being Count Alfred von Hammerstein who in 1901 reasoned that conventional drilling must also be possible, where so much oil was evident.

He went home a disappointed man, the first of many to learn that discovering the secret of extraction was not going to be easy.

The concept of using hot water for separation was first conceived in 1920, pioneered by Dr. K. A. Clark, a scientist with the Alberta Research Council. In essence, the method to be used by Syncrude is that same "hot water" process.

But between 1920 and today the schemes suggested ranged from: spinning the sand in centrifuges, mixing it with cold water, attacking it with chemicals or bacteria, bombarding it with ultra-sonic radiation, separating it underground, or heating it with an atomic blast.

CN's transcontinental rail system provides reliable service from all major Canadian centres, with direct connections from the U.S.

The Athabasca Oil Sands is actually one of four Alberta deposits. The other three are near Cold Lake, Wabasca and Peace River but they are deep, 2,000 feet or more below ground level. To extract oil from these deposits it will be necessary to find ways to heat the oil in place — *in situ* — to reduce its viscosity, and then pump it by regular oil well methods.

Of the four, the Athabasca deposit is both the largest and nearest the surface. Located about 250 miles northeast of Edmonton, it covers more than 12,000 square miles in a region surrounding but mostly north of Fort McMurray.

According to the Alberta government, more than 26 billion barrels of oil could be economically recovered by current methods. It may eventually be possible to mine as much as 86 billion barrels by newer methods, and if the *in situ* process is developed, another 200 billion barrels may be recovered. But that is in the future.



The Syncrude plant will be the second to capture the elusive bitumen deposits. The first is the Great Canadian Oil Sands Limited plant which began construction in 1965 and started producing oil in September, 1967.

The Syncrude project actually began in the late 1950's; and in 1962 Syncrude applied to the Alberta Oil and Gas Conservation Board for permission to build a plant to produce 100,000 barrels a day of synthetic crude oil. This term is used to stress that the raw oil found in oil sand — bitumen — needs physical and chemical alteration before it resembles most oil from conventional wells.

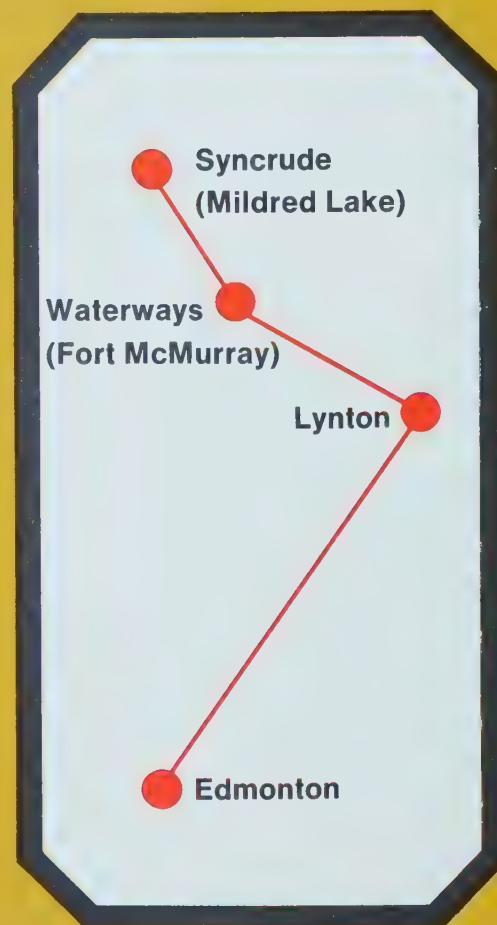
The first request was refused; a second application in 1968 was delayed; but in 1969 permission to go ahead was received. Two years later the Alberta government authorized a plant to produce 125,000 barrels of synthetic crude oil a day.

The operator of the project is Syncrude Canada Limited, which is funded through a consortium of Canada-Cities Service Ltd., Gulf Oil Canada Ltd., Imperial Oil Limited, and the governments of Alberta, Canada and Ontario.

Canadian Bechtel Limited, as managing contractor of the Syncrude project, is working in close cooperation with several other Canadian engineering firms. Canadian Bechtel is a major engineering and construction firm and is active in the construction project management business in Canada.

Before the plant start up in 1978, a

The Syncrude project in the Athabasca Oil Sands lies 322 miles north of Edmonton — reached by rail to Lynton, then road to Mildred Lake.



truly mammoth construction job must be completed, and Canadian Bechtel Limited has responsibility not only for building the plant, but for arranging the transportation of a major portion of the construction equipment and materials.

Canadian Bechtel has arranged for an intermodal rail/truck service, the latter operated by the Northern Alberta Railways beyond railhead at Lynton, Alberta, to Mildred Lake. This service is available to all suppliers through CN who interchange rail traffic with the NAR at Edmonton.

Edmonton, on the main CN transcontinental line, has trains arriving daily which link all Canadian shipping points and major border crossings.

There, shipments are interchanged daily between Canadian National Railways and Northern Alberta Railways — which has made provision for a constant flow of traffic to Lynton, Alberta.

Service at Lynton includes these new features:

- Sixty rail car spots for transfer of loads from rail cars to trucks.
- Separate piggyback and container transfer tracks.
- End and side ramps for off-loading machinery and self-propelled vehicles.

From Lynton to the Syncrude jobsite?

A year-round, all-weather road connects the two. The delivery service



operated by Northern Alberta Railways makes available:

- Cranes, tractors, flatdeck trailers, multiwheel lowboy trailers, vans, fork lift trucks and other equipment.
- Experienced personnel handling off-loading and transfer from rail/to job-site.
- The capability of delivering all classes of freight — general commodities, bulk shipments, construction equipment, rail-owned piggybacks, self-propelled vehicles, containers, and others.

Among many CN distribution experts who have particular expertise in the complexities of moving materials to the Syncrude site are John Wilson, who has an overall concern as assistant vice-president, freight sales, Montreal, and John Martin, branch manager — freight sales and services, Northern Alberta, Edmonton, who is the local expert.

What were the first operations Syncrude undertook when construction started in 1973? Clearing of trees and muskeg and drainage of the area. Then when the plant starts up in 1978, it will be an estimated \$2 billion later — one of the largest undertakings in recent Canadian history.

The next two years — 1976 and '77 — are expected to be peak construction years, with between 4,000 and 5,000 men and women employed. And opera-

tion of the project from 1978 on is expected to require a permanent staff of 2,000 persons stationed in Fort McMurray.

One leading economist predicted that Syncrude would create over 11,000 permanent new jobs in the Canadian economy, and Fort McMurray itself is expected to reach a population of 25,000.

It's also estimated that 70 per cent of that \$2 billion will be spent in Canada on payrolls, materials, equipment, engineering and consulting services. And more than 65 per cent of the project is being designed in Canada by Canadian engineers employed by Syncrude or its contractors and subcontractors.

An important by-product of Syncrude is the opportunity for Canadian specialists to gain expertise and experience in brand-new technologies related to oil sands.

This know-how will be here, in Canada, available for future oil sands developments long after Syncrude's project is complete.

How will that oil be extracted? First, the moving of mountains. Syncrude will use giant draglines and electrically powered conveyors to move 9,000 short tons of oil sands an hour to a processing plant.

There, the oil sands will be treated with hot water and steam to separate the

bitumen from the sand and other solids. The clean sand will be hydraulically returned to the site for reclamation of the mined-out pit.

The solids and water will be removed from the bitumen and — because it is impure and highly viscous in its natural state — the bitumen will be "cracked" and hydrogenated, processes to remove undesirable components and improve quality.

The result? A high-grade synthetic crude oil to help Canada meet its projected needs, which are of increasing concern.

Syncrude has stated that everything possible will be done to protect the wildlife, vegetation, air and water quality. Plans for reclamation of all mining sites have been developed, and this is to be completed as soon as possible after mining.

So if the ghost of Peter Pond happens to pass by one of those sites in the 21st century he'll never know anyone had been there.

But for the Canadians who are able to benefit from both the oil and the knowledge gained from the Syncrude project, it will have been a visit worthwhile. ■■■

The inconvenient medium

If you're not getting useful information from TV,
you're not using it right.

by Mike Palamarchuk

Consider this scenario.

Six high-level businessmen are going to discuss the state of the economy. As a concerned manager, you would naturally leap at the opportunity to hear them. Right? Wrong.

Because chances are slim that you — or many of your friends — did take the hour off to watch *Meet the Press*, when these industrial leaders did discuss the economy and where it was going:

Walter Wriston of the First National

City Bank; Thomas Murphy of General Motors; Irving Shapiro of E.I. du Pont; Reginald Jones of General Electric; Arthur Wood of Sears Roebuck and Co.; and Donald Cook of America Electric Power Co.

But it was on April 20, a Sunday. At 11 o'clock in the morning.

That's the trouble with television; it is so damned inconvenient. Most of us who admit to watching at all do so mainly during prime evening viewing time — somewhere between 8 and 11.

And we're not likely to see much grist for the management mill between the *Brady Bunches* and the *Hollywood Squares*.

You can't change that because it is a matter of economics, of Nielsen ratings. What you can change is your neglect of the rest of TV as an information medium.

An example. Du Pont of Canada issues occasional bulletins to its supervisory and management head office staff whenever there is a program upcoming to discuss an issue of importance.

The National Film Board's program on Steinberg's — called *The Corporation* — was one example. This six-part series provided some useful insights into how this particular company approaches such areas as marketing, expansion, bilingualism. It was on a Sunday afternoon.

How to uncover the nuggets from the dross? That is perhaps the most difficult problem, and the networks do little to help. And in researching this article, the writer wrote several TV critics as well and received answers from none. Zero.



However, if you feel your company should emulate Du Pont and send out early warning bulletins to management, appoint someone — most likely from public relations or employee communications — as your Paul (or Paulette) Revere. The task? To skim television listings in newspapers, to keep a look out for news of upcoming new features, to follow-up for more detail on management-related television programs.

TV Guide, much maligned as it is, is undoubtedly the best source. But even there the one line listing may give little information on the program's content. Book Beat, for example, is an often provocative show in which authors of current books are interviewed. BTL is even more mysteriously titled. Only by actually viewing one show was the writer able to discover it means Between The Lines. And on the show various journalists, publishers, and other media people meet to discuss current issues and how they have been or should be handled.

Now wait a minute. Right now you are probably saying you have never heard of these shows. One reason is that they really are in the ghetto of viewing: educational TV. Channel 33 at my house.

But it is clear if you opt for getting the most from television viewing, you have to opt for cable in some form.

Clearly, there is no way a busy person can change his living patterns to adapt to some TV program at 8:30 on a Wednesday morning or 3:00 on a beautiful golfing Sunday. So there are bound to be many shows missed. At least until the time when you'll be able to record the program for future viewing, by turning on a switch.

And therein lies the rub. If we were able to use television as we do almost every other medium — at our own convenience, there is undoubtedly more we could watch.

Sixty Minutes, perhaps one of TV's best journalistic shows. Medix. Question Period, the Sunday afternoon meeting between journalists and Canadian politicians. Ombudsman.

The latter two? Terrible? As businessmen, we have to learn to put aside our personal reactions — or at least subdue them. I'm not suggesting you will necessarily like Ombudsman. But a lot of Canadians watch that program and they develop attitudes toward corporations based on the content. We should at least know what they are seeing.

Television is also such a temporary medium. You can't make a photocopy

of a program and circulate it to your staff. But you can make a tape recording, which is half the battle. This writer has his tape recorder permanently at the ready by the set. If the content turns out disappointing, the tape is just wiped clean for another program.

But that tape, if worthwhile, can be circulated to staff — or better still, a transcript can be made. Then your staff can read what was said at *their* convenience.

Chances are there are few shows which would apply directly to your own company's activities. However, if you are in the news at some time because of a strike, government investigation, whatever, then you might want to strengthen the Paul Revere activity. After all, you make sure you see newspaper clippings about your company. That brief TV mention reaches a lot more people. And you should know about it.

If you are the kind of viewer who watches Kojack instead of The ascent of man, you are not alone. According to Television and the public, Robert T. Bower's analysis of viewing habits, the educated viewer "watches the set (by his own admission) as much as others during the evening and weekend hours; . . . Even when he had a clear choice between an information program and some standard entertainment fare, he was just as apt as others to choose the latter." And if the choice is football, forget it. There is no choice.

Before Jacob Bronowski, mathematician turned biologist and poet, became involved in his series, The ascent of man, his opinion of television was low. "It is as if the printing press had been used exclusively to print comic strips," he is quoted.

There are many reasons for this trivial use of the medium, economics a prevailing one. Another is the difficulty of knowing how to handle it, how people respond, how even they actually view it. And to many people, the television set is like a comfortable fireplace, warm, inviting, cosy. Not an information medium at all.

If you are one of those who is truly not a viewer and glad of it, as a businessman remember that at one recent count, there were television sets in 97 per cent of Canadian households. The average daily household viewing was 6.04 hours. That included men watching 22.11 hours a week; women 25.26.

Though Canadian and American habits may differ, they are similar enough to examine some results of a survey by the U.S. Roper Organization.

When asked how they rated six important institutions — television, churches, police, newspapers, schools and local government, TV scored the highest of them all. Excellent or good, said 71 per cent of those surveyed.

Another dangerous trend was shown in the answer to a question about what was the main source of news. It was directed to the college educated. In 1972, the newspapers and TV were even. This year, television had moved ahead for 56 per cent of the people.

We know that newspapers and in-depth magazine articles are necessary to provide some extended knowledge about issues. But more and more people are getting all their information from those one-minute and two-minute snippets on the 11 o'clock news.

As businessmen, we should decry this, perhaps do what we can to change the pattern. But first we must be aware of it.

One other reason for a re-examination of our television viewing relates not to management in the narrowest sense, but in the most broad. The medium can be exciting, can enlighten, can introduce us to people who have fascinating concepts. We have chances to see and hear people and places and events that would have seemed truly miraculous years ago.

From trips with Jacques Cousteau to interviews with the world's great, we have opportunities unsurpassed. But many, many of us miss them, settling instead for the pap that is easy and undemanding.

And now, about radio . . .



Footnote:

On Meet the Press, August 31, five American labor leaders were interviewed. Panelists included Leonard Woodcock, United Auto Workers; I. W. Abel, United Steelworkers of America; Jerry Wurf, American Federation of State, County and Municipal Employees; Robert Georgine, Building and Construction Trades Department, AFL-CIO; and John Ryor, National Education Association.

In this one hour program, these labor representatives discussed the economy of the United States, their attitudes toward economic change, collective bargaining, and the role wages play in the cost of living.

Naturally, it was telecast on a Sunday, at 12:30 in the afternoon.

A truck line for Bangladesh

That was CANAC's most recently completed contract, in a country with a turbulent past and present.

The name brings back memories of brutal TV images, as thousands of people fought a battle against disease and starvation. Bangladesh.

Born four years ago, amid much strife and suffering, Bangladesh most recently became of front-page interest again: The armed forces in early August seized power in a military coup, ousting Sheikh Mujibur Rahman, leader since 1971.

Though governments may change, problems such as food distribution remain. And it was that very problem that led to a contract CANAC recently completed — before the military coup.

To improve distribution of the food the Commonwealth Fund for Technical Cooperation, which is a unit of the Commonwealth Secretariat in London, invited CANAC to provide assistance to create a strong trucking organization. CANAC Consultants Limited is the international consulting arm of CN and Air Canada.

Bill Moffat, vice-president, surface transportation, CANAC, explained the background to his company's role in this unusual venture and some of the challenges that had to be met.

"In 1972, we were asked to provide a

management nucleus for the Bangladesh Road Transport Corporation, trucking division," he said. "The nucleus was to be a group of key, experienced managers supplied by us; they would act in an advisory but active role with the other management personnel, who were to be Bengalis."

CANAC provided seven persons in all, with two being replaced during the two-year life of the contract. At the conclusion of the contract, those men were: Glenn Hossack, general manager; Gordon Burdge, operations manager; Bill MacLean, maintenance manager; Corey Taylor, purchases and stores manager; and Gil Wilson, financial manager. The two team members initially involved were Bob Williams and Bill Morton. All were stationed at Dacca.

Mr. Moffat has himself visited Bangladesh on several occasions in connection with this and other CANAC projects.

The plan was to create a trucking division, to distribute food primarily but also some general merchandise using a fleet of 1,500 trucks. That turned out to be a "paper" figure, based mainly on the numbers of trucks donated by

Two oxpower cart serves these Bengali workers well.



various countries to the Bangladesh government after the war.

"Our initial step was then to take a preliminary look, and see what could or should be done," Mr. Moffat explained.

One of the most important aspects of every project undertaken by CANAC is the establishment of a Counterpart Training System. Such a system, set up at the commencement of the project, provides for the sharing of the CANAC team member's knowledge, ability, and concepts with his national counterpart in an actual on-the-job situation.

The national counterpart, in turn, works with the CANAC team member in meeting both the day-to-day assignments and the problem-solving requirements of the work place. At the commencement of the project, the counterpart system provides a visible national presence on the project. And when the project has been completed, it provides for a trained group of national counterparts, able to take over completely from the CANAC team.

"Although this is the ideal, it seldom works completely in practice and our staff may have to operate with no counterparts, or with frequent changes in those counterparts over the life of the contract. In the trucking contract, one of the difficulties was that there was no previous trucking corporation of any size from which the government could draw staff.

"Still that is the kind of situation we can and have coped with in the past. Another serious problem arose when the original 1,500 trucks dwindled to something less than 200. This was partly because many were inoperable, and more seriously, a great number were being used by other government departments who were not anxious to release them," Mr. Moffat said.

One discovery was that marketing of trucking services to shippers and/or consignees could be more effectively accomplished by leasing the trucks than by a western style marketing plan. What happened was that those who leased the trucks performed the marketing and sales services.

During the time the trucking organization was being established, it was clear one problem stemmed from the fact that the Bengalis have had little opportunity to develop some of the skills — and perhaps attitudes — necessary for efficiency in such a wide-ranging operation. Selecting and keeping staff was a real challenge.

During the life of the contract, language was not a serious problem, Mr. Moffat

ansport Commission:

cross-fertilization of information and ideas for transportation in this country. In the late 1950's the MacPherson Royal Commission undertook the task of creating a new transportation policy for the country.

III Who was Mr. MacPherson?

Pye He was a lawyer from western Canada who had been deeply involved in transportation and was appointed as explained, because the Bengali management people all spoke English. However, in March, 1975, an announcement was made by the government that all official communications had to be in Bengali.

Although this obviously caused some difficulties, they were not major because the contract itself ended shortly after, in June. And oral communications from person to person continued in English.

In spite of the problems, Mr. Moffat explained that there were some important advances achieved. The basis of a trucking corporation was established, and in a country where that did not exist that can be counted a success, especially over such a short period as two years.

"They also have a proper accounting system in force now, with balance sheets, and profit and loss statements."

posed public duties, and should bear their fair share of resources, facilities and services provided each mode at public expense.

In the language of the Act, "an economic, efficient and adequate transportation system making the best use of all available modes of transportation at the lowest total cost is essential to protect the interests of the users of transportation and to maintain the economic well-being and growth of Can-

Some members of CANAC team pose here with their Bengali counterparts



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In addition, new facilities at Dacca were officially opened June 9, of this year; shop facilities and activities at Chittagong were restructured; job descriptions were prepared for management personnel; and progress was made toward setting up a new operational division at Bogra, in northwest Bangladesh.

Shortage of spare parts is a continuing problem, particularly since the trucks have been supplied by a variety of countries — Swedish, Indian, British, American, Japanese. Thefts are frequent, but relocating spare parts warehousing has helped to reduce the shortages from that source.

Training both drivers and maintenance crews was accelerated by a program set up by the United Nations, supervised by a Swedish instructor.

Aside from the vehicles themselves, the

road system throughout Bangladesh is not first-class, perhaps mostly fourth or fifth grade in our terms. And since there are few bridges — and many rivers and streams — traffic must be ferried across very often.

There is a railway service in Bangladesh, perhaps 1,500 miles, with two gauges, meter and broad. CANAC itself has contributed in that service as well, with a separate project for the design of a locomotive shop, just completed before the recent coup, and other technical assistance provided in previous years.

Five of the seven consultants brought their wives to Dacca; Bill MacLean also brought his four children and Bill Morton brought his two.

There is no question that travelling from Toronto to Dacca can be a severe cultural shock, and the sight and smell of poverty is all-pervading. However, Mr. Moffat explained that each team member — and this applies to projects in all countries — is given as much of an honest appraisal as possible. Telling him, and his family, what conditions will be like, what can be a problem, what can be exciting.

"I can't recall anyone say that we had misled them," he added, "but there is simply no substitute for living through experience."

The MacLean children became involved in the Bengali environment, to the extent of learning the language while at school. And Mr. Moffat feels most consultants and their families show a real willingness to experiment.

Formerly East Pakistan, Bangladesh comprises the pre-partition state of East Bengal with the district of Sylhet. A mere 55,000 square miles in area, its population is a staggering 75 million.

A region of great rivers — the Ganges, Brahmaputra, and Jamuna — as well as lakes and islands, it is almost flat country. In the summer monsoon season, floods occur extensively, covering much of the surrounding countryside.

The capital is Dacca, with Narayanganj the centre of the jute trade, and Chittagong the country's chief port.

Almost 90 per cent of the population is Muslim, with Hindus a significant minority. Though many Hindus fled to India during the disturbances, most have returned. Bengali is the language of the country, although Urdu, the language of West Pakistan, is widely understood but not encouraged. English is spoken by most educated people, as well. 



You and the CTC

An overview of the Canadian Transport Commission: its past, present and prospects.

by Bill Palmer

Is a passenger railway line unprofitable? A new airline route necessary? Or a freight rate too low? Then the call goes out to the CTC.

Yet to many Canadians — even those involved in transportation — the actual workings of this federal agency are not well understood. To provide CN Movin readers with a more detailed appreciation of the CTC, we spoke with Howard Pye, who has been CN's commission counsel for nearly 12 years.

■■■ What was the forefather of the Canadian Transport Commission, Mr. Pye?

Pye There were actually several forefathers, one for each mode of transport. Going back as far as the early 1900's there was a Board of Transport Commissioners which was the regulatory unit for railway. We also had an Air Transport Board and a Canadian maritime commission. The National Energy Board handled pipelines.

■■■ What became the basic problem with this arrangement?

Pye Simply that there was too little

cross-fertilization of information and ideas for transportation in this country. In the late 1950's the MacPherson Royal Commission undertook the task of creating a new transportation policy for the country.

■■■ Who was Mr. MacPherson?

Pye He was a lawyer from western Canada who had been deeply involved in transportation and was appointed as chief commissioner to look — basically — into rail transportation problems in Canada. However, out of the commission's work came a number of views with respect to *all* modes of transportation.

It took some time, but the culmination of that Royal Commission was the National Transportation Act, enacted in 1967. It was as part of that Act that the Canadian Transport Commission came into being.

The rationale for the new commission was in line with the new governmental policy which stated that all modes should be regulated in a similar manner, should be compensated for im-

posed public duties, and should bear their fair share of resources, facilities and services provided each mode at public expense.

In the language of the Act, "an economic, efficient and adequate transportation system making the best use of all available modes of transportation at the lowest total cost is essential to protect the interests of the users of transportation and to maintain the economic well-being and growth of Canada."

■■■ What is the basic structure of the CTC?

Pye It consists of a president — now The Hon. Edgar J. Benson — and two vice-presidents, one responsible for the legal areas, a second for research. There are 17 commissioners and five basic transport committees: railway, air, water, motor vehicle and commodity pipelines — as well as provision for "such other committees as the Commission deems expedient."

■■■ In addition to regulatory responsibilities, and policy-making, research was an important concern of the Commission when it first was formed. Is that changed?

Pye There appears to be a lessening of responsibility in the area of research, particularly with the formation of the Ministry of Transport's Transportation Development Agency. That group has taken over many of CTC's research functions, keeping a continuing overall view of what is being done in industry and the academic world, as well as government at all levels — in transportation research. Still, CTC's regulatory and policy responsibilities have remained strong.

■■■ You quoted the National Transportation Act and what its basic intent is. Would you say that that has been accomplished?

Pye Obviously not everyone feels that is so. One serious difficulty is that the Act tries to accomplish its aims in such a way that the regulation of transport will be such a nature as to not restrict the ability of any mode of transport

Howard Pye, CN's commission counsel



to compete freely with any other modes. And that means the regulation should be the same — or much the same — for each mode; one should not have an advantage to the detriment of another.

And that means also that each mode so far as practicable should bear a fair proportion of the real costs of resources, facilities and services provided at public expense.

■■■ A worthwhile aim. But what are the kinds of problems facing the CTC in achieving that goal?

Pye One example is related to trucking. The National Transportation Act envisaged that inter-provincial trucking — motor carriage generally — would be brought under federal jurisdiction. At present, that has not completely been brought into effect so that, for example, the major competitors of railways are still provincially regulated. And the provinces are not prepared to give up control over trucking.

Incidentally, that responsibility was given to the provinces by the federal government in the '50's, after a long case that ended up in the Privy Council in England. The issue had been whether or not the province of New Brunswick could regulate an inter-provincial undertaking to the extent of restricting that company from picking up and setting down passengers within provincial boundaries. It was decided that the intent and spirit of the BNA Act was such that this should be a federal responsibility.

The federal government was not really equipped to accept regulation of inter-provincial motor carriage so they enacted legislation delegating that power to the provinces in 1953. So the only answer to the dilemma now will be reached when that Act is repealed.

■■■ That means that competition between railways and inter-provincial motor carriers remains unfair?

Pye The best example of that would be to refer to the restrictions railways are under, as set forth in the National Transportation Act. The motor carriers are not so restricted, so the possibilities for unfair competition are there.

■■■ The CTC is basically a non-political animal. At least its structure is not supposed to be affected by changes in government.

Pye That's right. However, I think Canada historically speaking entwines politics in its broad sense and transportation. Regional disparities, for example, are tied closely to transportation

and to politics; western provinces are concerned about so-called freight rate inequities; the Maritimes are distressed about their location, far from central markets. It's not easy to see decisions being made in these areas without having some degree of political overtones.

But it is the public interest the commission must protect and that aspect is over-riding.

■■■ Canada's very geography, and the Commission's disparate responsibilities, must make decisions hard to come by. Aren't there situations where both sides have a good case?

Pye Exactly. And there is a recent case that emphasizes that kind of problem. It's commonly called the "rapeseed case," and though there has been an interim decision by the CTC, it has been appealed to the Governor-in-Council and no final decision has been announced yet.

The case came under Section 23, a new NTA section which imposes certain restrictions on railways in rate making. It provides that anyone who feels a rate or an act of a carrier which is regulated by the CTC is prejudicial to the public interest can apply to the CTC for a review of the situation.

This was done in the rapeseed case. The background is this. Rapeseed is grown in western Canada, and there are four crushers of rapeseed — two in Manitoba, one in Saskatchewan and one in Alberta. They crush the seed, sell the meal which is a byproduct for cattle feed, and ship the oil to customers in Ontario and Quebec.

The only other current rapeseed crusher is located in Montreal. And he was bringing seed in from western Canada, crushing it in Montreal, and selling in the Ontario and Quebec markets.

■■■ But freight rates were a problem?

Pye Exactly. The seed was moving by rail at the depressed Crows Nest rate to Thunder Bay, then by rail to Montreal. Since it could have been moved by water directly from Thunder Bay to Montreal, the railways published a water competitive rate.

The result was that when you added the Crows Nest rate (a statutory rate over which railways have no control) to the water competitive rate, (a rate which the railways had to publish to meet its water competitors), the Montreal crusher was obtaining his seed at a cost way below the cost to the western Canada crushers of bringing their oil to eastern Canada. The two products

were different, of course, but those were the issues which were brought to the CTC.

■■■ Was this affecting their business?

Pye Actually, no. Evidence was that at that time they were in top production, selling all they could crush. But they were concerned about the possibility being mooted of another large crushing plant being located in the Toronto-Hamilton area. And the same rate applying.

■■■ The interim decision?

Pye Although it's fair to say neither the railways nor the western Canada crushers were happy, it was the crushers who launched an appeal. I cite this case, however, as an example of how the commission has to adjudicate between conflicting interests, and between the interests of shippers.

■■■ What can be done if there is dissatisfaction with such a decision?

Pye There are several avenues of appeal open. If it had been a final decision, then there would have been the right of appeal to the Federal Court of Canada. But since it was only interim, there were two other areas of appeal open. One was to a CTC review committee, a committee within the CTC; the other is to appeal to the Governor-in-Council, which is in effect the Cabinet. It is this latter route the crushers have taken.

■■■ The government's recent statements indicate some shifting in attitude about transportation policy. How do you see this change?

Pye Basically, I suspect there is a feeling that the National Transportation Act contained a fundamental mistake in trying to combine policy-making with regulation and giving jurisdiction in both fields to the same agency.

In other words, I think that the role of the CTC will be more regulatory, and that the Ministry of Transport will take on policy-making to a much greater degree.

An example of this change in attitude, I think, has been the setting up of the Hall Commission to examine the railway branch line situation in western Canada. There are serious economic implications for many people and Mr. Justice Hall is now to conduct an inquiry to assist the government in determining a policy for branch line abandonments. It will undoubtedly be more than a year before his work is completed.

Following that, the Ministry of Transport has announced that a policy will be evolved and out of that will come guidelines for the CTC to use in dealing with branch lines in western Canada.

I think that is a good example of the government's new approach to policy and to regulatory responsibilities.

■■■ What is the philosophy of the NTA about rate making?

Pye The theory was that there was to be limited control over rates and that competition was to be the regulator. Nothing should restrain a carrier from putting in a rate except competition.

However, there are two areas where the Act says there will be regulatory control over rates. The first is where there is a captive shipper who has no alternative mode. In that case there is a formula designed to determine the maximum rate chargeable. The other area is where the Act says the rates under the Railway Act must be compensatory. This is to prevent a carrier from eliminating competition by having a "loss leader," for example, and charging below cost until he drives the other carrier out. That, of course, wouldn't be true competition.

Of course, Section 23 which we discussed earlier in connection with the rapeseed case, opens up many other avenues with respect to rates.

Another part of the Act provides for payment to a carrier which is providing a service required in the public interest. It can be a branch line or a railway passenger service.

The plan was that there would be a formula of declining subsidies from 1967 until the end of 1974, on the supposition that over that period of time the companies would be getting rid of most of their uneconomic branch lines

or passenger trains, leaving only those really necessary in the public interest.

But between 1967 and 1975 there was very little activity in the area of branch line abandonments or passenger train discontinuances for a variety of reasons including tremendous workloads on the CTC. Now the railways must submit specific claims for subsidies each year in respect of their branch line and passenger train losses.

■■■ What are the criteria for an abandonment as far as the CTC is concerned?

Pye First, the railway must show that the service is operating at a loss, and the CTC must certify that loss. Then the Commission performs an "economic test," which is basically an attempt to see if that loss could be eliminated by improved efficiencies, changes in operations, and so on. Then if it is determined that the operation is uneconomic, the decision has to be made: to run or to abandon. A prime factor in the decision is whether or not there is an alternative service available. If not, the chances of abandonment are slim.

■■■ Are alternative services ever used to replace, say, a passenger train?

Pye Seldom. Although the train service in Newfoundland was discontinued because it was uneconomic and a bus operation replaced it, this was a rather special case, and certainly not the rule. There were some major savings to the company in that case.

However, as an uneconomic passenger train service can be subsidized under the Act up to 80 per cent of its losses, whereas the law does not permit such subsidies for highway operations, it follows that only in a unique circumstance would a company substitute a highway service for a rail service. We do look to the service being provided by other commercial carriers, and indeed the private automobile, as alternatives to our service should our application to abandon or discontinue be approved by the CTC.

■■■ If it is decided to continue a passenger service that is uneconomic, how is the railway compensated by CTC?

Pye The railway receives an 80 per cent subsidy. On the branch lines, the compensation is 100 per cent and it is not altogether clear why there is a lower rate for passenger service. I suspect it was considered to be a method of providing an incentive to the railway to provide reasonably good service. If the subsidy was total, a railway might feel no need to improve or even maintain service.

■■■ Why has the CTC had responsibility for telecommunications?

Pye Historically railways have been associated with telegraph and, to a lesser extent, telephone services and for that reason the CTC inherited the regulatory functions of the old Board of Transport Commissioners over Bell Telephone, BC Tel and CN/CP Telecommunications. Basically all other such companies are provincially regulated.

However, that historical link will be dissolved soon by the formation of a new unit, the Canadian Radio, Television and Telecommunications Commission, unrelated to the CTC, and this new Commission will take over regulation in the telecommunication field.

■■■ What is your own role opposite the CTC?

Pye My responsibility is to represent CN before the commission on every aspect of business that involves the CTC. That includes appearances before the CTC on all hearings involving CN or in which we have an interest. That also includes the telecommunications side, or at least will until the new commission takes on all of its responsibilities.

I'm also involved in the preparation of submissions of all kinds to the CTC, as well as in hearings concerned with safety problems.

The CTC has always been interested in safety and a couple of years ago set up a full scale safety inquiry. It examined operations, maintenance practices and standards, training, etc. A very detailed report was issued following the hearings and a great many recommendations were made. Following that, a Safety Advisory Committee was set up about a year ago, composed of the Commission, the railway labor organizations, CN and CP and the Railway Association of Canada.

A series of working groups to investigate specific problems has also been organized.

In addition, the committee conducts inquiries into more serious accidents, either by a full scale public inquiry or through the appointment of a special investigator who reports back to the Commission.

Whatever changes occur in the CTC, the concern about safety in transportation will undoubtedly continue. There quite possibly may be shifts in areas of responsibility to other areas, and time alone will determine what those shifts will be.



The new renaissance man

Want to rejuvenate the mind and spirit of executives? Try a sabbatical.

by Gordon Bennett

The human brain is the world's most under-exploited resource. Weighing about three pounds in adults, it boasts more terminals, switches, crosspoints and connections than the largest and most sophisticated computer.

It has a virtually unlimited ability to absorb, store, transform, retrieve and regenerate information. It is infinitely renewable. If your health is reasonably

good, you can keep learning and developing intellectually regardless of your age — provided you are interested and motivated.

But as you stagger home from yet another grueling day on the firing line, you may not believe you are barely skimming the surface of your true cerebral capabilities. Whole portions of your brain are not being used.

Yet even geniuses exploit only a fraction of the tremendous potential. But we urgently need more executives trained to see far beyond the limits of their specific job or field of business, to use more of their potential. The times are changing too quickly for narrow-gauge, inflexible thinking. In short, we need to create many more modern day Renaissance Men, managers who have broad knowledge and the flexibility to



cope with an array of rapidly evolving circumstances.

In pursuit of this objective, a small but growing number of companies are resorting to educational sabbaticals. In a few cases, these involve a free-form exploration of human knowledge, about as far removed as you can get from the sponsoring company's day-to-day activities. Such sabbaticals may take designated executives to leading universities around the world and last from three months to a year and even longer.

Among the few firms in Canada that have a formal sabbatical program is Towers, Perrin, Forster & Crosby, management consultants. Under the heading of social and urban leave of absence policy, employees with three years of service may work full time with recognized non-profit organizations that are seeking solutions to social and urban problems. The company makes up the difference between compensation, if any, received from the sponsoring organization and 80 per cent of the employee's current monthly salary.

David R. Cox, an executive with the firm, explained: "It is our belief that by encouraging individuals who are motivated toward social service, TPF & C is not only expanding opportunities for personal and professional growth but making a contribution toward betterment of society in a meaningful and effective way."

Both IBM Canada Limited and Imperial Oil Limited permit extended leaves of absence for employees to work with public service organizations. Currently, one IBM employee, for example, holds the position of director of youth ministries, Evangelical Lutheran Church of Canada; another is deputy data processing manager for the Nigerian government, employed by the Canadian International Development Agency.

The Bank of Montreal encourages its senior management and executive officers to attend management seminars and offers leaves without pay but with benefits continued to complete university courses or update knowledge in an individual's specialized area. Simi-

larly, IAC Limited encourages senior executives to involve themselves in full time educational programs, such as management training courses offered by the School of Business Administration at the University of Western Ontario.

In the past, leaders have traditionally been individuals of tremendous cultural breadth. For example, Frederick the Great of Prussia, one of the outstanding military and political strategists of all times, was also a notable chamber musician and deeply immersed in philosophy, art and other intellectual pursuits of his day.

Recent decades have emphasized specialization, with education primarily preparation for specific careers. The free-form educational sabbatical represents an attempt to make up for the deficiencies of this approach; it recognizes that more than limited technical expertise is needed to function effectively at higher management levels.

Possibly the most widely publicized executive "sabbatarian" today is Eli Goldston, president of Eastern Gas and Fuel Associates, Boston. Mr. Goldston spent six months in England as a visiting fellow at the London Graduate School of Business Studies. In addition, he saw numerous plays, met socially with academics and business people, travelled about the Continent and lectured at various European universities. In an article contributed to the Harvard Business Review, he reported that he came back with not just a recharged battery but "a new motor," plunging into the challenges of his job with enlarged perspective and renewed vigor.

Mr. Goldston's sabbatical was free-form, but companies favor more the job-related, structured kind. As for subject, executive development is first choice, followed by technical development. In the U.S., there are an estimated 5,000 participants, coming from about one quarter of the largest companies and going through 80 programs at approximately 50 institutions.

The majority are involved in structured courses such as the Advanced Management Program at Harvard or the

Sloan Program at M.I.T. and Stanford. Typically, a middle manager about to move into top management is sent by the employer to a course for four to ten months. His full salary and tuition are paid, with possibly something extra to cover the cost of occasional visits by his wife.

The sabbatical may appear in many other forms, all ostensibly aimed at improving executive performance and productivity. The Canadian federal government has adopted a sabbatical approach in its total immersion courses designed to make public service employees bilingual. Among other forms are sabbaticals built around religious revivals where the emphasis is on spiritual reorientation, as well as those that include wilderness survival courses for city-bred executives. The latter are premised on the theory perhaps that anyone who can cope in the woods can survive the executive jungle.

The purely recreational sabbatical is less popular with employers but can be effective. One executive golf enthusiast was granted six months' leave to play the leading courses of the world. He reportedly felt so guilty he has not taken a moment from his job ever since.

Japanese companies have long used sabbaticals. Executive trainees are placed with suppliers and customer organizations to gain intensive first-hand knowledge of their field.

Along similar lines, the President's Executive Exchange Program was developed in the U.S. to increase understanding between government and the business community by an exchange of key people. Senior corporate executives are given temporary posts in government departments and agencies. In turn, government officials move into positions with companies participating in the program.

Interchange Canada is a program started here within the last few years. It has comparable objectives but differs in detail. The Canadian program involves people from provincial governments, universities, other public institutions and business executives. In the

U.S., there is a once-a-year assignment of participants. In Canada, assignments are made whenever individuals can be matched with suitable posts. The length of stay varies and may be longer than one year.

The social service sabbatical is another variety and is an extension of the part time work thousands of business executives already do on behalf of charitable and community organizations. Usually employers make up the difference between the regular salary of loaned employees and any remuneration they receive from their social service position. The returning employee is generally guaranteed his same job or one that offers the same pay, responsibility, status and opportunity for advancement.

A social service sabbatical program offers fine opportunities for high-visibility corporate citizenship. Not only is the employee likely to return refreshed through participation in a worthwhile and personally satisfying project but the company can expect highly favorable publicity or, at the least, strengthened community bonds.

Based on his personal experience, Eli Goldston has suggested a three-phase program to be instituted at various stages in an executive's career. The first stage would be an intensive, job-related sabbatical offered at around age 35 to give lower and middle-management people intensive training in executive methods.

Then at age 50, a free-form educational sabbatical would be offered with the emphasis on general expansion of the participant's knowledge and interests. At middle age there is a tendency among many executives to feel somewhat jaded; they have thoroughly mastered the mechanics of their jobs and have lost some of the excitement and challenge that they found earlier in their careers. It is a time for introspection, giving people a special appreciation for the ideas of great thinkers of the past and present. Exposure to such ideas can help counter the inflexibility that sometimes overtakes executives in their middle years.

Finally, Mr. Goldston suggests that two or three years before an individual is due to retire he should be given six months to try out retirement plans and discover how well he can cope with unstructured time — something that comes as a shock to many people who are not prepared for it.

Sabbaticals can prepare executives for promotion, having them move into new posts when they return. Extended leave for special training can also eliminate personal frictions that sometimes crop up when someone is being groomed to take over from an older executive close to retirement. The sabbatical can be scheduled to end about one month before the changeover is due to take place. Apart from the training benefits, it keeps two nervous people out of each other's hair — one apprehensive about how well he will be able to cope with retirement; the other a little uncertain about his ability to handle the bigger job.

How much real interest is there in sabbaticals? The sabbatical leave is still

largely a U.S. phenomenon. In Canada, interest is confined mainly to subsidiaries of American firms; however, it may be a matter of terminology. Many companies offer extended leaves to their employees for educational and other purposes. Where these leaves continue beyond three months, they could be logically defined as "sabbaticals."

A questionnaire mailed by Eli Goldston to the Fortune "500" elicited replies from 266. Of these, 24 per cent had some sort of program they considered a sabbatical. Another 41 per cent regarded the concept as a good one; 31 per cent of the replies were non-committal; only 4 per cent were opposed.

Middle-sized companies appear to be most comfortable with the idea. The difficulty of setting standards for middle-management executives numbering in the tens of thousands and scattered through dozens of countries was cited as a major obstacle for large international corporations. At the other extreme, very small companies pointed to the problem of sparing key individuals for long periods of time.

Would you like to develop yourself into a broad-gauge thinker but your company doesn't provide sabbaticals? Take the poor man's version — available to anyone willing to devote a little time and effort.

Examine your afterwork activities. Have you been doing the same thing over and over again for years? Try a new tack. If you normally read nothing but the sports pages or business news, get into something that really gives your mind a workout.

Have a go at deciphering philosophy or higher mathematics, study art, music, ancient Greek, Russian or, closer to home, French. Pick your own mental challenge. You may find it an exhilarating experience. The attempt won't bother your brain a bit. In fact, it will be absolutely delighted with the exercise.





A good yarn

End of Steel, by D. E. Macintyre. Published by Peter Martin Associates Ltd., Toronto, Ont. — \$5.95.

Entertaining, easy to read, these 133 pages should delight railway buffs. Especially those interested in learning the human side of pushing new rail lines across remote and sometimes rough country at the beginning of the century. The setting is mostly in Quebec and Ontario.

This is a personal story by Lieut. Col. D. E. Macintyre, DSO, MC, born in Montreal in 1885. He left school at 15 and soon took a job with the CPR in the days of iron men and wooden box cars. The book chronicles his experiences from childhood in Montreal until he left the CPR for his own business in 1906 at 21.

If you were fortunate enough, when you were young, to have had the pleasure of listening to a really good storyteller spin yarns about the good old days, then this book will probably bring on a wave of nostalgia.

The narrative is alive, exciting and memorable. Macintyre can tell a story with sensitivity, flair and uncommon good humour.

I found this book hard to put down and a pleasant diversion from the pressures of present day living. Even though over 30 years with a railway may have biased my taste in reading material a bit, I think I can safely recommend this pleasant book to any casual reader.

John Conrod

Keep on truckin'

Transit Canada Magazine, published by Transit Canada, P.O. Box 6103, Station A, Toronto, Ont., M5W 1P5, bimonthly, 24 pages; subscription \$10 per year, industry \$26 for three copies.

Formerly Canadian Coach Magazine, this publication has put on a new name and face. Though its design is clean, uncluttered, readers may find the column width inordinately wide and difficult to read easily.

Still it is content that counts most, and our latest issue had articles of considerable interest to transportation people: from special transit for the disabled, to an analysis of public transportation in Edmonton.

W. P.

Forecast: Windy

So you want to be an executive! By Elton T. Reeves, published by Prentice-Hall of Canada for the American Management Association. Pages 230.

It may be that somewhere there is some middle manager who may find something useful in the final two-thirds of *So you want to be an executive*.

This is said in an effort to be fair. This reviewer was able to wade through only about one-third of the book's 230 pages. So perhaps it is not quite cricket for him to dismiss it as *all* nonsense.

With that out of the way it must be added that there is nothing in the first one-third of the book that would lead one to expect any pleasant surprises in the remainder.

Mr. Reeves says that his book offers "a conceptual and philosophical view of the subject rather than a how-to-do-it approach." This is a cop-out typical of too many books of this genre. It means that instead of practical advice about how to get on in the company, we are offered windy platitudes of the intellectual order of "Certainly you must never fall into the trap of espousing change for the sake of change, but neither can you afford to lie back and dare someone to prove to you that a certain change will be for the better." (Page 7)

Philosophical fatuities of this nature flash past in rapid succession until on page 78 one encounters this conceptual clunker: "If you choose your staff members partly on the basis of their differences from one another, friction will sometimes arise. Some direct confrontations about issues is healthy (confrontations . . . is?) as long as all concerned are careful to keep personalities out of the picture. Of course this is not always possible and when disagreements arise you will have to play it by ear to keep estrangements at a minimum."

That was all, folks!

Brian Cahill



Westward Ho!

These huge sections of pipe are going to be combined into a tumbler for processing the oil sands at the Syncrude project in northern Alberta. They were loaded at Thunder Bay, Ontario, and delivered by CN using specially designed well cars.

CN

AR40

“MOVII”



news briefs news

CN achieves largest operating profit since 1956

Canadian National Railways expanded its major services in 1974 and earned an operating profit of \$51.6 million — the largest surplus, before payment of interest on debt, achieved by the Crown Corporation since 1956.

CN's annual report shows that rail traffic increased and gross revenues reached a record of close to two billion dollars (\$1,913.4 million); \$346 million higher than in 1973.

However the report describes the overall financial results as "disappointing."

"Interest on the long-term debt of the company amounted to \$89.6 million — an increase of almost \$20 million over the previous year — and the payment of this converted the operating profit to a deficit of \$37.7 million," the report said.

The sharp increase in interest costs is attributed to higher rates of interest on refinancing matured bonds and government loans, and to the fact that interest of \$5.5 million was charged on a government loan previously interest free. The loan was originally made to help CN rehabilitate the Newfoundland Railways.

The report further states that the deficit position reflects "continuing inflation" and "the fact that the ability of the company to take freight rate action in response to inflationary cost pressures was limited by the freeze on freight rates in Canada."

In a "Commentary" on the report, Pierre Taschereau, chairman, and R. A. Bannen, president and chief executive officer, report that CN has been cooperating with the Federal Government in the development of the new national transportation programs envisaged in

the Speech from the Throne last September and that "on its own initiative" the company has developed proposals "designed to produce fundamental improvements in grain transportation and rail passenger services in Canada."

Looking to the future the report sees continuing growth in the workload of CN over the next five years and notes that the additional fixed plant and rolling stock needed to meet this higher workload will require "capital expenditures of a very high order."

New CANAC contract

Canac Consultants Limited — the international consulting arm of Canadian National Railways and Air Canada — recently announced the signing of a major contract with the government of Brazil.

Valued at more than \$2 million, the contract calls for an exhaustive transportation study aimed at the technical modernization of the Federal Railway System of Brazil.

The Federal Railway System of Brazil operates 30,000 freight and 2,500 passenger cars over some 15,000 miles of track. The railway achieves earnings of almost \$1 billion yearly.

J. W. G. Macdougall, president of CANAC, said work on the contract will begin in Rio de Janeiro in the fall of this year and will require a 28-man team some 15 months to complete.

Since its incorporation in 1971, CANAC has been one of the world's leading firms in assisting developing countries in the application of modern technology to surface and air transportation problems. The company has undertaken more than 30 projects to date, in Africa, Asia, the Caribbean and North and South America.

The Brazilian contract increases CANAC's total business volume — since its inception — to more than \$15 million.

To complete the project CANAC will work in consortium with the Brazilian firm TRANSPLAN of Rio de Janeiro.

'Bedstead' introduced

One of the most significant improvements in the rail transportation of asbestos-cement pipe has just been introduced by Canadian Johns-Manville Co. Limited and Canadian National.

A new method of loading the pipe on railway flat cars increases the size of the load by 40 per cent and at the same time substantially reduces the amount of lumber needed for blocking.

The Transite pipe is now pre-loaded into metal racks which are then stacked three-high aboard a modified flat car, nine racks to a car. Some cars also carry open containers for pipe couplings and fittings.

This replaces the traditional method of blocking, stacking and strapping the pipe directly to the floor of the flat car.

The appearance of these new cars has given rise to the term "Bedstead." A fleet of 32 cars has been modified to help Johns-Manville serve its markets in western Canada. At the present time pipe is being moved west out of the Toronto plant at the rate of two cars a day.

Jim Walker, transportation manager of the Johns-Manville Toronto plant, said: "These 'bedstead' cars have really streamlined our shipping operations and have reduced the possibility of in-transit damage. We are very pleased with their performance."

A mari usque ad mare

Canada's motto is almost a theme for this issue. Our articles leap the country from the new container terminal a-building in British Columbia to our drama about automobile deliveries in the Atlantic provinces. Definitely from sea to sea.

And to make the allusion more apt, our story on CN's new Traffic Reporting And Control System explains how our company is exchanging information within the vast expanse of Canada. To the advantage of the company and of

the customer.

TRACS has been made possible because of new computer technology now available. Yet often the glamor of the hardware and the mysterious language overshadow the importance of the people-to-people contact. And TRACS is important because it will supply faster information and more information so that CN and its customers can talk more knowledgeably. To the advantage of both.

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Destination: Japan, People's Republic of China, Taiwan, Hong Kong, Korea, the Philippines...

by Donald Stainsby

Port of Vancouver is already Canada's largest by far in terms of dry cargo tonnage; on the same basis it is the biggest port on the entire Pacific Coast of the Americas.

Now it is completing a major development designed to increase its share of the general cargo market. The new venture is called Vanterm — and CN is part of it.

Scheduled to begin operations about November 1, Vanterm is a \$36 million, 76-acre container and general cargo terminal being built on the south shore of Burrard Inlet to handle the latest in container ships.

It will be operated by the National Harbors Board under a triparty agreement between the NHB, CN and Empire Stevedoring Company Ltd.

NHB will manage the facility. Empire Stevedoring will provide the operating services, while CN will be responsible for the marketing services and will play a key role in promoting Vanterm and the entire Port of Vancouver to shippers around the world.

Vanterm will have two 40-ton container cranes serving two 925-foot container berths, a 750-foot roll on/roll off berth, and additional berthing length of 1,400 feet for general cargo, all with at least 50 feet of water at low tide.

Vanterm will provide more than 50 acres for container storage as well as a large container freight station, an equipment maintenance building, an office building and a gatehouse. Because much of the old Lapointe Pier is being incorporated into the new terminal, Lapointe's existing cargo shed will also become part of Vanterm.

There will be nine railway tracks totalling 5,500 feet laid on the new terminal, in addition to the three tracks totalling 1,500 feet already serving Lapointe Pier, according to Albert G. Thomson, CN's marketing officer, Marine Terminals, Vancouver.

The addition of the two new container cranes to the single, 40-ton crane now operating with limited 15-acre back-up space in the harbor will put Vancouver in a much stronger competitive position in the general cargo field than it has

enjoyed in recent years.

"It will offer much more inducement to freight lines to come in here," Mr. Thomson said.

The inducement will be heightened by the fact that Vanterm is actually only one prong of a double attack on the general cargo business. A second major facility, known as Lynnterm, is under construction on the north shore of Burrard Inlet. Lynnterm, being built at a cost of \$26 million, is a 96-acre deep sea general cargo facility with a future capability for handling containers. It is expected to go into operation early 1976.

Are Port of Vancouver's developments having the desired effect? One indication that the answer is yes was seen on May 20 when the Japan Mail became the first American President Lines full-container freighter to call in Burrard Inlet for more than two years.

Mr. Thomson and others involved in Port of Vancouver are confident a lot of other lines will join them.

In the 10-year period 1965-1974, the Port of Vancouver's total tonnage grew 108 per cent from 20.1 million to 41.9 million.

It took more than 2,000 deep sea vessels and almost 15,000 coastal craft to achieve that 1974 total. (More than 400 tugs and a large number of barges and other vessels are engaged in coastal trade out of the port.)

Some indication of the extent and speed of the port's growth can be found when those last figures are compared with just 65 years earlier — the grand total of 71 ships visited Vancouver.

The port was barely beginning to flex its muscles then.

Vancouver is situated on the most southerly of British Columbia's fjords.

The harbor was discovered by Spanish seamen in 1791, but it was the British naval captain George Vancouver who the next year named it Burrard Inlet for a friend, Sir Harry Burrard of the Royal Navy.

One of two 40-ton containers for use at Vanterm in Vancouver is being erected.

It was 70 years before the first Europeans settled on Burrard Inlet's shores, but it was only two years more, in 1864, until the first ship took on a cargo there for foreign shores — the barque *Ellen Lewis* cleared the inlet with 277,500 feet of lumber and 16,000 pickets for Adelaide, Australia.

A dozen years more and three separate little communities were merged. Hastings, Granville and, between them, Gastown, joined at the coming of the railway to create the City of Vancouver, which celebrated the event three months later by burning to the ground. Gastown was a collection of buildings that grew up around the pioneer hotel of one Capt. John "Gassy Jack" Deighton.

But that railway link with eastern Canada brought the great clipper ships to speed tea from the Orient across the continent and on to Europe in record time: 800 tons the first year, 1886, a year when 23 ships loaded 30 million board feet of lumber and spars for export.

The port's growth rate was further boosted by the opening of the Panama Canal in 1914, giving Vancouver direct connection with Europe, the West Indies and the eastern seaboard of North America.

As the port grew, grain elevators rose on the shores of Burrard Inlet and Vancouver became the world's leading grain exporter. In fact, until the early 1960's, grain shipments made up virtually the only bulk cargo handled through the port and accounted for about one-third of the port's annual total of about eight million tons.

In the 1960's other commodities began to make their appearance — coal, sulphur, potash and imported phosphate rock. Between 1968 and 1973, the port's total tonnage increased 80 per cent.

Today, coal shipments account for about 30 per cent of Vancouver's total tonnage, with grain running less than 20 per cent. Wood products still rank high — lumber and woodpulp together accounted for about 2.9 million tons in 1974, but they were outranked that year by coal (12.1 million tons), grain (5.3 million), and sulphur and potash, each



Steel erector is silhouetted on one of two container cranes.



Harbor facilities at Vancouver also include two piers seen in foreground: Centennial and Ballantyne.

...and the latest development at Port of Vancouver, Vanterm, will help speed the way.

over 3 million tons. Phosphate rock was by far the greatest import in 1974, at 1.1 million tons.

Although Vancouver has always been basically a dry cargo port, crude oil entered the list of exports in 1973, when 444,000 tons were shipped, a modest entry that skyrocketed the next year to almost 2.4 million tons.

Passengers still maintain a place in Vancouver's heavily cargo-oriented harbor. The NHB has recently revamped Pier B-C to make it an efficient and attractive entry point for the growing fleet of cruise ships that calls during the season. Many national flags were flown by the ships that made 110 visits to Burrard Inlet in 1974, bringing with them about 80,000 passengers. Something in the order of 100,000 passengers are expected to pass through the port this year.

In the mid-1960's the National Harbors Board initiated a major reorganization of Port of Vancouver. The port's boundaries were expanded from about 49 square miles within Burrard Inlet to nearly 200 square miles extending from Vancouver to the U.S. border.

This change set the stage for the first innerport-outerport complex in North America. As the innerport, Burrard Inlet was to continue to develop shipping facilities to handle a wide variety of cargoes.

And 20 miles south of Burrard Inlet, at the seaward end of a three-mile causeway sticking out from the Fraser Valley delta, a 50-acre loading terminal was built as the first stage of the Roberts Bank development. In 1970 it began loading coking coal brought by mile-long unit trains from the Kootenay country in southeastern B.C. for shipment to Japan.

Future proposals for development would see a quadrupling of this area to accommodate vessels up to 150,000 tons dead weight.

While Roberts Bank was building, the federal public works department widened and deepened the entrance to Burrard Inlet, extending the First Narrows from a low-tide depth of 39 feet under the Lions Gate Bridge to 50 feet, permitting free entry for deep draft vessels to the main harbor. Capabilities of the innerport are indicated by the fact that earlier this year the world's largest-ever grain cargo — 129,748 tons of wheat and rapeseed — was loaded aboard the supertanker Amoco Cairo deep in Burrard Inlet.

The new Centennial Pier was built with six berths and a 300-ton heavy lift

crane. Despite limited back-up land for storing containers (only 15 acres was available) it was decided, following negotiations with the Japan Six-Line consortium, to make Centennial's Berth 6 a container facility, with priority to ships of the Japanese group. The port's first container crane went into operation there in 1970.

In 1971, the container terminal's first full year, the harbor as a whole handled 691,521 tons in 66,264 containers. By 1974 the totals had risen to 872,075 tons in 83,476 containers, 80 per cent of them 20-foot, the rest 40-foot containers.

The completion of Centennial Pier gave Vancouver 110 ship berths, 75 per cent of them capable of handling deep sea cargo vessels.

Half the general cargo facilities in Burrard Inlet are owned by the National Harbors Board, but they are all operated by private contractors. CN is one of them.

When the NHB announced in 1968 that it would be turning operation of the piers over to private contractors, CN bid for and won the contract for Berths 1, 2 and 3 at Centennial Pier. Empire Stevedoring got Berths 4, 5 and the container facility, Berth 6. CN then contracted the actual operations' end of its three berths to Empire as well, leaving CN in a basically management and promotional role.

"The arrangement has proved to be very beneficial to both of us," Mr. Thomson said.

The tremendous growth of Far East trade is an important factor in Port of Vancouver's development. Trade between western Canada and Japan has increased four times in the past decade to some \$600 million annually. NHB projections indicate that the port could well be handling 80 million tons of cargo a year — up from the present 42 million — by 1980.

Even the world's energy crisis with its spiralling costs for fuel enhance Port of Vancouver's future.

"It takes two and a half times as much fuel to ship goods through the Panama Canal to the East Coast as it does to land them in Vancouver," Mr. Thomson said.

As an NHB Port of Vancouver statement puts it: "The Port of Vancouver is being swept to its destiny by a strong tide of world evolution which is refocusing the centre of shipping activity from the Atlantic to the Pacific Ocean.

"This challenge has imposed heavy

responsibility on the Port of Vancouver as Canada's western gateway to prepare for the new age of international shipping — and to accommodate the changing trading patterns and to prepare for a future filled with container ships and enormous bulk carriers."

The bulk facilities were established and their future development outlined. Clearly, container facilities had to be upgraded if Vancouver were to live up to the demands that would face it.

The continuing pressure for the port to develop a full container facility was heightened further as cargoes destined for Canada began to go to the U.S. Port of Seattle, just 140 miles to the south.

"In the days before containers, shippers wouldn't discharge general cargo from Vancouver in Seattle," Mr. Thomson explained. "It was too costly to handle it for transshipment."

"But when the container ships came in it became much less costly."

As a result of all these factors, Vanterm was born.

And, because they were so happy with their operation on Centennial Pier, CN and Empire Stevedoring decided to make a joint proposal to the NHB for the operation of the new terminal. They were successful.

(However, because it is NHB policy to have each terminal operated by different contractors, they will give up the Centennial Pier operation once Vanterm is functioning.)

Vanterm is building along more than five city blocks toward the eastern end of the main harbor, not far from the site of Hastings sawmill and townsite, one of the original units that went into the making of Vancouver, one of the harbor's earliest exporters.

Construction was started in 1973 with the opening scheduled for November 1 of this year.

The two 40-ton container cranes will be the heart of the operation.

Designed with an outreach from the waterside rail of 140 feet, and a back-reach from the landside rail of 60 feet, they are high speed cranes with a maximum time to raise the boom of five minutes and to raise the shuttle boom of three minutes, capable of 30 theoretical simple cycles per hour. Their design includes provision for future automation.

"Container ships require speed of turn-around," Mr. Thomson said. "With only one container crane at Centennial Pier

ips sometimes had to wait. Now there will always be room for several ships.

At Vanterm, we will be able to handle either two ships at a time or put both lanes on one ship, speeding things even more."

the berths, with their 50-foot minimum depth, will be capable of handling third-generation container ships. Vessels coming into Vancouver now run 800 feet long and carry 1,200 containers.

"We could double that for new ships," Mr. Thomson said.

ashore, Empire will provide the latest equipment for handling the containers and moving them about the 50-acre storage area, or into the container freight station.

mpire will have 10 van carriers at the terminal, each capable of straddling containers of up to 30 long tons, together with three special container-handling lift trucks. In addition to a fleet of smaller fork-lifts for stuffing and unloading containers, Empire will have a full dozen lift trucks capable of stacking empty containers. Basically, Empire will transfer its equipment from the present Centennial operation.

CN for its part has the equipment ready to get the containers off the dock. Outbound train service will be on series of 10 trains originating in Vancouver and.

We have a good supply of 46-foot and 40-foot container flatcars," Mr. Thomson said.

We will be moving a lot of the freight in conventional boxcars, too, and in Canadian II piggyback trailers."

key CN role in the Vanterm operation will be promotion of the terminal to shippers overseas, through CN's worldwide marketing organization.

CN will be pushing Vancouver — and Vanterm in particular — as a large, efficient port for both conventional and container cargoes.

Key market areas have been established as Japan, Hong Kong, Korea, the People's Republic of China, Taiwan, the Philippines and other Pacific Rim countries.

Domestically, the target market is Toronto-Montreal and the surrounding region.

Ready, CN's marketing people have been reaching out with the message to steamship companies and container lines, to freight forwarders, consolidators, shippers and receivers and import-export brokers.



Men here were busy loading lumber aboard ships at Hastings Mill in Vancouver, more than 70 years ago.

Brochures in English, French and Japanese are in preparation for distribution through sales offices in Canada, Australasia, the Far East, the United Kingdom and Europe, and preparations are under way to let the U.S. know about Vanterm, too, and the port it is part of.

Mr. Thomson recently returned from a three-week trip to Japan with members of the National Harbors Board and others concerned with the port. A visit to other Far East countries is being considered seriously, and in the meantime Mr. Thomson is planning to visit San Francisco and to meet consignees in eastern Canada to ensure they get the message that CN provides an economical, efficient and integrated intermodal distribution system through the Port of Vancouver, particularly through the new Vanterm terminal.

Across the harbor from Vanterm, not far from the spot where in 1864 the little barque *Ellen Lewis* took on Burrard Inlet's first-ever export cargo, Lynnterm will be getting into operation at about the same time. CN will be there too, of course, its trackage and equipment ready to speed cargoes on their way.

Mr. Thomson sums up CN's attitude toward not just Vanterm but the whole Port of Vancouver this way: "We are trying to streamline it to meet everyone's needs."

Just watch our TRACS

CN's Traffic Reporting and Control System: good for the customer and the company.

by Bill Palmer



Heart of the technical and sophisticated machinery for TRACS is the IBM 370 computer, seen here through a fish-eye lens.

Real time.

That's the goal of management in most endeavours; to know what a situation is like now, not what it was yesterday, or two weeks ago.

That's the core of CN's TRACS, a program that has been developed over the past 10 years.

CN Movin talked with A. J. Wilson about the history and the potential of the new system. Mr. Wilson is assistant vice-president, Freight Sales.

TRACS will provide railway operating officers and management personnel with instant, accurate and meaningful information on all CN traffic movements.

That means improved decision-making and better use and control of the company's rolling stock fleet. CN can now distribute cars and plan train operations by computer, offering customers much better operating efficiency, service and information.

Though a computer-based information and control system may seem old hat to many industries, CN leads North America in the innovative use of such a system for railways, which are extremely complex operations.

Mr. Wilson said that major strides toward better efficiency through improved plant have taken place already; further steps will be of some benefit but it became clear a few years ago new areas had to be developed. A system for better reporting and information seemed one reasonable step.

Though TRACS cost CN some \$55 million to put in place, it represents a long-term capital value saving to CN of \$100 million through improved car utilization, and millions of dollars annually in increased earning power.

Every minute on CN lines in Canada, the information system keeps track of 120,000 freight cars, 2,500 locomotives, 3,000 piggyback trailers and 20,000 containers — domestic or foreign. And it gives back information, in manageable form, on the 300,000 things that change every day in the operation of the railroad.

At the heart of TRACS is an integrated computer-communications complex connecting the computer with yards, dispatching offices, sales and freight offices and other key locations across the CN system — about 200.

From these locations flow the many pieces of data on car and train movements which will be received, held and distributed by the computer; it will also carry out various sorting and analytical chores.

Then information is obtained from the computer by those who plan, direct and control CN's rail services.

Because they're constantly updated, the computer files will provide information for marketing and accounting documentation, empty car management, motive power control, terminal control system and CN's car movement control system. All are important.

But the two particular functions of TRACS which will mean better benefits for many customers are empty car management and waybill information network.

Empty Car Management

CN operates a fleet of about 120,000 cars with a capital value of more than \$2 billion replacement value — and about \$1 billion annual earning capacity. Any improvement in the use of these cars means handsome benefits for CN and for its customers. The Empty Car Management system consists of various segments: demand/supply forecasting, computer identification of surplus/shortage situations, on line assignment of empty cars to car orders and on line monitoring capabilities.

Programs have been established to assign cars by industry, commodity or other parameters; to determine car service rules and normal home routes; to ascertain the most efficient supply routes; and also to determine specific car orders by type and grade of car.

Mr. Wilson added: "In plain terms, the information today might even tell us to tell our customer that we can't supply his equipment as requested, because we know it is not possible. But reliability for the customer is the key: we can

tell him yes or no — and we hope yes most of the time — because we have the information."

Waybill Information Network (WIN)

WIN is another important benefit to customers, with the implementation of TRACS.

CN defines WIN as: The new computerized system that streamlines documentation and handling of repetitive freight shipments.

Mr. Wilson explained that more than 80 per cent of CN traffic repeats at least three times a year. That means the same shipper, origin, consignee, destination, route and commodity. Including piggybacks and containers, that amounts to more than 2,000,000 shipments a year.

Repetitive information accounts for 75 to 95 per cent of the instructions on each shipment.

Communication and transcription of repetitive information is costly, time-consuming, and subject to error — serious error.

With WIN, there is no need to communicate the same information over again and again. Instead, a simple code is used for those details and only new information need be included with each shipment. The simple code is called RWC — Repetitive Waybill Code.

CN is introducing WIN in three stages. In the first, now in operation, everything about car movement, handling and servicing is processed by the computer system — except for rate information.

Customer benefits?

1. Faster and easier release of shipments.
2. Accurate documentation and reduced communication time.
3. Automatic protection of special handling and servicing instruction.

The second stage, now in the implementation stage, uses the computer system to calculate automatically the lowest applicable rates and charges and apply them to the customer freight account. Because of the complexity of this stage, it is being introduced gradually.

Customer benefits for the second stage include:

1. Ready access to total shipment costs.
2. Instant rate verifications and simplified accounting procedures.
3. More accurate accounts and reduced overcharge claims.
4. The ability to predetermine the lowest possible rates and conditions for their application.
5. Additional data can be made available for further physical distribution analysis, enabling customers to break down costs by specific commodity, customer, point to point.

The third WIN stage, still in the future, will provide streamlining of documentation techniques. Under development now are such possibilities as these:

- Direct computer to computer interface.
- Special agreements to eliminate the need for unnecessary shipping documentation and procedures.
- More streamlined accounting systems.

CN customers are now receiving detailed information on WIN and how it applies to them.

CN's Servocentres have been vital in the whole program, as far as the customers are concerned. Originally, CN had about 1,200 agencies across the country to service customers. An impossible complex to control.

With TRACS, those 1,200 agencies have been replaced by 85 Servocentres, each covering a geographic part of the country serviced previously by several agencies. Three advantages: each Servocentre has several kinds of specialists available to customers; support for a communications network is possible for such a small number of service groups; and a 24-hour 7-day operation.

Mr. Wilson emphasized that the key to determining the number of Servocentres is maintenance of good service to customers.

Each Servocentre has computer terminals under the TRACS program, feeding information back to computer headquarters in Montreal, and receiving information from that same headquarters.

A simple example of how TRACS and the Servocentre work in tandem. As a car is reported empty to computer headquarters, the system assigns a new use and destination for that car — rather than have it sit empty until the local people find a local use for it.

Not only, Mr. Wilson said, have we the capability to run our operation the way it is supposed to run, but when it doesn't we can quickly analyze the problem and start corrective action.

Although this is not new, the difference now is that CN before — and most railways still — were only able to arrive at this information long after the fact.

One problem CN faced in establishing TRACS was related to the computer terminals and the Cathode Ray Display Screens. Most of those available were suited to banks or airlines, not to railways. It was over a year before it was possible to select suitable components for the company's particular needs.

What has been developed is a combination of the old and new and still has the old card punch reader application suitable for a local yard routine — as well as the capability for inquiring for information from the computer, or from other terminals. And it can be upgraded as needed.

Has CN kept this information to itself? By no means. Mr. Wilson explained that the company has made the information available to other railways, and the reason is partially selfish. "The more our system is used, the more compatible information exchange will be and the more efficient will be operations — both for ourselves and for our customers," he said. "And that applies from carrier to carrier, as well."

To inaugurate such a complex program as TRACS entailed intensive training of people — and CN has had specialists in the field for about five years in the Servocentres, explaining how TRACS works, what information can be obtained, what must be supplied, how to do a better job now. Many of the experienced agency employees and implementors have been appointed supervisors at Servocentres across the system. In addition, the company has an ongoing training program for new employees, not familiar with physical distribution methods.

One unique training technique used by CN, Mr. Wilson explained, was a training van outfitted with all the necessary equipment to demonstrate TRACS. This van was transported to the Servocentres so that employees could "get the actual 'hands on' feel of the operation."

Formerly CN had two streams of information for planning: operating and revenue. These came from separate sources and each provided only the data needed to support that source.

TRACS, Mr. Wilson explained, provides that same information — in real time now — and, in addition, it provides much more.

"What we now have is an expanded data base. And it is possible to determine what the true demands are on our equipment. For example, in the past substitutions were made for equipment requested. But most likely there was no record of the original request, merely the substituted equipment. And that record only told half the story."

As far as long range planning is concerned, it has always been done — so that is not new. What is new is that with TRACS that planning can be done with considerably more detailed information. So it can be done both better and faster, and it can be more easily updated and modified as new information becomes available.

One example cited by Mr. Wilson is the

work carried out by a systems development group in Freight Marketing. That group uses forecasts of tonnage, track limitations and other information. It is now able to use *current* information to do model simulations, to ascertain traffic growth patterns for a particular branch line, to seek out inefficiencies in operations.

Now with all the complex technology available to find out the answers to questions, a vital task for CN is to frame the right kind of questions. Customers want information, but their requests have been based mostly on what we were able to provide in the past. What is really useful to them to help them make better management decisions? The capability is there to provide those answers, and CN is devoting considerable development time to looking into this area.

To assure that there will be continental agreement on reporting and control, CN works closely with the Association of American Railroads, and various committees of the National Industrial Traffic League in the United States, and the Canadian Industrial Traffic League. It's essential that the systems be flexible and adaptable across the board.

Down the line a bit, Mr. Wilson sees the exchange of information taking place much more rapidly than the existing Telex and low speed systems. "Ideally it could be computer to computer," he explained, "with the customer's computer providing information to the carrier's computer extremely rapidly, and vice-versa."

Such a system ultimately could reduce paperwork dramatically. The data is stored in the computer and available, but reams of paper documents may not be necessary. That would be much less expensive.

Still, Mr. Wilson emphasizes that the CN TRACS program — as it becomes modified in the future — must always be able to accommodate all customers

— from the giants to the firms that ship products once or twice a year.

The introduction of CN's new TRACS program is not an end. It's clearly a start toward a new era in improved information exchanging — to the benefit of the company, other carriers and customers. **III**



Cathode ray screen seen here is a visual link in the components which make up CN's TRACS network.



Waybill coming off printer here is one of several steps in CN's Waybill Information Network system, to improve service to customers and increase efficiency.



Operating CN's fleet of about 120,000 cars efficiently is vital and TRACS' Empty Car Management system is a help to both customer and company.

For those with a knack — and need — for numbers, this data sheet on TRACS will be welcomed.

Number of freight cars on line	120,000
Number of cars billed weekly	40,000
Daily equivalent punch card volume	300,000
Equivalent capital cost of TRACS	\$55 million
Annual operating cost of TRACS	\$12 million
Estimated savings	\$18 million
Management and customer daily enquiries	12,000
Main computers	Two IBM 370/165
Main computer operating memory	Two million characters
Disc file storage memory	Three billion characters
Total number of field input/output locations	206
Number of field input/output machines	525
Carload service centres	85
Number of dedicated communication circuits	370
Miles of CN Telecommunications communications circuits	300,000
CN employees trained	11,000
Field terminals supplied by	

TRW, IBM and CNT

Competition is no ferry tale

When CN isn't fighting off the ocean waves or the ice, it's fighting off the competition.

On December 2, 1974, a crowd gathered at the Dartmouth Autoport near Halifax to watch the inaugural trip of the MV Federal Avalon for St. John's, Newfoundland. Its load: new automobiles being delivered by CN.

That single event was the culmination of a long, complex series of negotiations. To understand the background, CN Movin talked with Len Durning, national manager — automotive, and G. J. Frontain, regional manager — marketing, Atlantic region.

A vanishing ferry boat was one of the many events we uncovered in this competitive struggle for business in the Atlantic provinces; other happenings were important — perhaps not so dramatic.

1970

Before this time, CN handled all domestic automobile distribution from central Canada to the Atlantic provinces through three mainland terminals: Halifax, Moncton and North Sydney.

Cars to Newfoundland were transported across the Gulf to Port-aux-Basques and from there by railway flat car to their destinations.

Attempts were being made by CN to improve this service because of discontent voiced by automobile manufacturers. Problems included occasional excessive transit times to Newfoundland; large inventory build-ups at North Sydney; high claims factors for Newfoundland traffic and a desire to reduce the number of terminals.

Still CN's offer of an improved Gulf service wasn't considered satisfactory by two car manufacturers.

Early 1971

Enter the competition. CP Rail offered a transportation service from Saint John, N.B., to St. John's, Nfld. and Cornerbrook, Nfld. General Motors and Ford accepted. Two Roll-on/Roll-off motor vessels were used, supplied by a firm call Apollo Marine.

December 1971

CN chartered a conventional vessel, the Federal Hudson, and retained the Chrysler and American Motors account.

The ship was owned by Federal Commerce and Navigation Company; she

was an old British ship not at all designed for auto delivery — but she did bridge the gap while CN continued negotiations for a more suitable ship.

March 1972

CN contracted with Trident Steamships Ltd. for service by the MV Travetal to replace the Federal Hudson. She was under a British flag, was German owned, and registered in Singapore. Not untypical for marine vessels. The Travetal stepped in and provided the necessary service until . . .

June 1973

. . . she suddenly pulled up anchor never to return. Without even saying goodbye. As far as the competitive battle was concerned, it was stand-off.

Chrysler and American Motors agreed — not enthusiastically — to revert to the Gulf service via North Sydney; CN proposed upgrading that system with several improved facilities.

During this time, CP Rail acquired control of Apollo Marine Ltd. and, using two small ships, maintained an auto service from Saint John, N.B., to Cornerbrook and into St. John's.

CN increased its efforts — both with more equipment such as improved loading and unloading facilities, and with strengthened service by staff. The result: our system through the Gulf got better and better, while all reports were that the service by CP from Saint John deteriorated. Especially during the winter months when the seas are very high and there was a great problem with ice.

CP also ran into a capacity problem because their two ships were just not big enough for the automotive trade — or sturdy enough or fast enough.

At one point, one of the CP ships was caught in the ice off Cornerbrook for 22 days — and the first mate just up and walked ashore.

1973-74

After some unfortunate experiences with refitting an older ship, CP chartered the Caribbean Progress to continue servicing the Ford and GM accounts. At that time CP retained all the Maritimes Ford and GM mainland business through Saint John, N.B., while CN

Federal Avalon prepares for trip to St. John's, Newfoundland, with load of new automobiles at Dartmouth Autoport.

handled all the Maritimes Chrysler and American Motors mainland auto business through Moncton.

Flashback to 1971

While the competition was heating up for the domestic automobile business, another event took place which had ramifications later: the opening of CN's Autoport at Dartmouth, N.S., jointly owned by CN and the government of Nova Scotia. The Autoport is simply a compound where vehicles, mainly automobiles, are either transshipped from ship to rail or road (or vice-versa), stored for future delivery, or given the service package treatment and then shipped.

For automobile manufacturers, Autoport is an efficient and easy way to distribute autos whether they want transhipment or the total dewaxing-testing-storing package. For CN, Autoport is a steady source of business which makes planning more reliable.

During its first year of operation, Autoport handled more than 50,000 automobiles from countries like Italy, Britain, Japan, Germany and France. These cars are carefully covered with wax to protect them from the sea air and have been stripped of hub caps, mirrors and other ornaments.

At the Autoport, they can be unloaded, steam cleaned, repaired if necessary, have accessories installed, checked for finish and performance, stored, etc.

Autoport not only handles imported cars. Ships such as the MV Federal Avalon can load both domestic and imported cars there for delivery to Newfoundland.

1974

CN discussed its new service with GM in November and convinced that company to return to the fold, with the Federal Avalon.

February 1975

Ford Company followed suit.

July 1975

Now CN is handling all of the Newfoundland automobile business, which has grown considerably; today it is twice what the traffic was five years ago.

One other difficulty is that there is a concentration of population and commercial activity at the eastern end of the Avalon Peninsula. The Federal Avalon is kept fully occupied with the supply of autos for this end of the island.





Federal Commerce and Navigation Company Limited, which both owns and charters ships, supplied Federal Avalon to CN for automobile service.

The remainder of the island is handled by East Coast Marine through the original route via Port-aux-Basques.

This route historically has had ice problems through the winter months. However, today half the fleet used by East Coast Marine Services in the Atlantic provinces has ice-breaking capacity. East Coast Marine Services is owned by the federal ministry of transport and operated by CN; it handles the interior of Newfoundland, as well as Corner Brook.

Alternate ports are also available but not on a regular schedule — Mulgrave and Argentia. In all there has been a considerable increase in available commercial ferry service to Newfoundland; in total something between 20 and 25 vessels.

Still, the automobile manufacturers, who are now all being serviced by CN to Newfoundland, are again content with their deliveries. GM, Chrysler and American Motors deliveries are by the Federal Avalon from the Autoport at Dartmouth to St. John's, Nfld.; GM, Ford and Chrysler deliveries to the cen-

tral and western sections of Newfoundland are made through North Sydney.

And the Moncton auto compound has expanded its business considerably, with Chrysler, American Motors and Ford accounts — as well as considerable imports.

1975 — Full circle

The Federal Avalon arrives in port at St. John's, Nfld., with about 200 to 250 automobiles. Four hours later — and on a fast day, three — the skipper has an unloaded ship and can begin the return voyage to Nova Scotia.

That's not to say the struggle for the automobile delivery service in the Atlantic provinces is won forever. One skirmish is over; but CN knows it will have to continue to provide suitable service, good service, to keep the fruits of that victory. **III**

Addendum Federal Avalon

- 301 feet long; 57 feet wide; 1,575 deadweight tons, 1,279 gross registered tons.



After driving up stern ramp to main deck, these cars will travel down internal ramps to lower decks.



Autoport at Dartmouth near Halifax is owned by CN and province of Nova Scotia; it handles imported cars as well as domestic cars for delivery to Newfoundland.

- Speed — 12-13 knots.
- Two 1,400 BHP Atlas-Mak diesel engines; a 400 BHP Schottel bow thrust engine assists in docking.
- Built by Trosvik-Verksted — Norway (1968), but now Canadian-owned and under Canadian flag.
- Capacity of 230-250 units in average model mix (North American and imports).
- Cars loaded on upper deck by elevator from the main deck; rest driven up stern ramp to main deck and by internal ramps to lower decks.
- Operation totally independent of government subsidy.

Federal Commerce and Navigation Company Limited

- Established in 1944; head office, Montreal.
- Operations division staffed by former ships' officers; commercial staff posted all over world.
- FCN both owns and charters ships.
- FCN vessels provide 20 per cent of Seaway's revenue from ocean vessel traffic.
- FCN's Seacar Line is prime carrier of British and European automobiles to eastern Canada and inland ports.

I never forget a face, but in your case I'll write it down...

M is for the managers I've forgotten; E is for the effort to recall; M is for...

by Allan Jones

What with inflation, overpopulation and the possibility of a nuclear holocaust, I'll have to admit I'm not worrying enough about developing my memory.

I do not lie awake at night trying to remember my butcher's first name. If I forget my house key, I climb in a window. And worse: I have stooped low enough to write down my own telephone number in an address book, itemized under "M" for Me.

Verily, I am ashamed.

Nay, mortified, after reading The Memory Book by Harry Lorayne and Jerry Lucas. Therein I read of wondrous things: Jerry Lucas mentally rearranging words into rapid alphabetical order as a child (remember, Serutan arranged alphabetically is Aenrstu); Harry Lorayne remembering the names and faces of up to 500 persons in a crowd (Mr. Antiphlogistine, meet Mrs. Riboflavin).

So humbled by these mnemonic machinations was I that I decided to look up a few facts about mental giants in various walks of life just to revel in my misery.

Arturo Toscanini, in case you had forgotten, memorized entire symphonies and conducted without a score; Charles W. Eliot, former president of Harvard, knew the name of every student attending the university during the current year, and the humorist James Thurber claimed extraordinary recall in one special field: he could remember the birthday of each of his many acquaintances.

But these are the minor leagues. Around the turn of the century there was a rash of mathematical whizzes who astounded crowds by mentally working complex problems in a few seconds. One famous mentalist — whose name has temporarily escaped me — multiplied and divided two 19-digit numbers in less than a minute.

Even stranger are the *idiots savants* like the 22-year-old clinically certified idiot who could not be taught to read or write, yet could repeat fluently with proper intonation any number of words spoken to him in a variety of languages.

Of a different stripe altogether are those with eidetic (photographic) memories, who can recall an entire page of words, numbers or random forms after a brief glance and read them off forwards, backwards, diagonally or locate a number at any position on the page. Psychologists tell us that eidetic memory is actually visual and does not involve the higher mental processes. It is similar to the reversed afterimage we mortals experience after staring at a light bulb and closing our eyes.

Contrary to popular belief, memory cannot be exercised like a muscle. William James, the famous philosopher, tested this by brute force memorization of a number of nonsense words for 20 minutes each day. At the end of a month he found that he was actually able to remember fewer words than when he started his mental exercises. D. S. Halacy, Jr., in his book Man and Memory, explains that memory really cannot be improved at all. "Memory systems that work," he writes, "actually operate by making us learn better in the first place." We lose our house keys because we weren't paying attention when we put them away. The old computer maxim "garbage in, garbage out" applies to human memory as well.

While there are some things that are learned unconsciously — the complex feat of riding a bicycle, for example — most learning efforts involve three basic conscious steps: perception, association with some known element, and organization. Perception is a clear awareness of the item to be remembered. Spinoza summed it up: "The more intelligible a thing is, the more easily it is retained in the memory."

Often we forget because we are distracted from concentration by experiences that accompany the thing to be remembered. We may be so disquieted by someone's personal appearance that we miss his name. Data gleaned during a rush effort may be forgotten quickly. Ronald and Eleanor Laird, in their book Techniques for Efficient Remembering, list some things that are most often forgotten:

1. Names
2. Numbers and dates

3. Unpleasant things
4. What is barely learned well enough to be remembered
5. Facts at odds with our own prejudices
6. Anything learned by cramming
7. Our failures
8. That which is picked up without effort
9. Things not reviewed after the first effort to remember
10. Material not understood
11. Learning attempted when tired, embarrassed, frustrated or in poor health.

Association is the key principle in the Lorayne/Lucas system. One thing reminds you of another, like the string around the finger. And, in conformity with our principle of perception, the more vivid the association, the better. Thus, if you want to remember the name of a Mr. Smolenski, break it into separate images and picture a small lens skiing. If Mr. Smolenski has a large nose that looks like a ski, Lorayne adds, you've established an association of name to face that you're not likely to forget, even after several hours.

All this is fine for simple tasks like house keys and the name of the capital of Lithuania, but how do you recall long lists of pertinent things like page 116 of the Manhattan telephone directory? Not to fear, says Lucas, simply link them together. If Brady is an E wearing pigtails, then Brent can be a bent pin with pigtails, and Brewster can be a rooster sitting on a bent pin. Any images that stick in the mind will do.

Our third basic step, organization, comes in when the items to be remembered are too complicated to be linked. Rhymes are common jogs to the memory. Everyone knows "Thirty days hath September, April, June and November..." Numerical and alphabetical orders are commonplace and acronyms such as UNESCO and the beginning physicist's ROY G. BIV (Red, Orange, Yellow, Green, Blue, Indigo, Violet) have entered the language as familiar terms.

In his book Stop Forgetting, Dr. Bruno Furst recommends visualizing a sequence of actions experienced while (continued)

(continued)

going on a trip (buying tickets, getting on the plane, fastening the seatbelt, etc.) and pegging each item to be remembered in order to a stage of the trip.

The Lorayne/Lucas book includes a list of simple substitute words for numbers up to a hundred: tie is one, Noah is two, Ma is three and so on. Tens all begin with T, twenties with N and thirties with M. Presumably number 123 could be remembered by visualizing a bow tie being fitted around Noah's neck by his mother.

As ludicrous as all this invariably becomes, it is humbling to discover that it works. This writer squeaked through school by distilling each element of a long list of terms to one key word and then making up a sentence using the initial letters of the key words. Lorayne and Lucas assure us that once the system is learned, it can be applied to a vast panoply of areas, such as map reading, basketball plays, breaking the bank at the blackjack table and playing musical instruments. The thought strikes me, however, that the man on the street had blooming well better do his remembering subvocally:

(Scene: a grocery shop)

Grocer: Yes sir, what would you like?
Man: I'd like cow dozen of somebody parking his car and watching it roll down the hill and smashing a house ...

Grocer: Charlie ...

Man: and tie pound of a lady putting face powder in the oven and baking it ...

Grocer: Charlie, can you call the cops?

What must these conventions of mentalists be like? Do they bypass normal syntax and speak in their own inimitable language?

Keynote speaker: And so, my fellow members, a man wearing toes instead of a hat sitting on a mailbox ...

(scattered applause)

And furthermore, a giant shoe kicking a throne.

(copious weeping, gnashing of teeth and rending of garments)

Undoubtedly it's jealousy that prevents me from admitting that I'd like to remember the names of everyone working in my office building, or, indeed, that I secretly *need* to. It doesn't help much to learn that Simonides was into this kind of thing circa 500 B.C. or that Descartes wrote a treatise on it called *Rules of the direction of the mind*. Somehow I have the sinking feeling that as soon as the phone rings, I'm going to grab a pencil and paper. I don't think I'll be able to look my electronic calculator in the face again.



Typically, conventions are huge affairs held in large centres to allow participants to hear important speakers, but ...



... companies are also exploring the use of smaller groupings, where more in-depth explorations of subjects can be undertaken.

Convention delegates are getting smarter

And the really smart ones develop a personal strategy to make every minute of convention attendance count.

by Gordon Bennett

Convention delegates today, compared to those in times gone by, are a shrewd and sophisticated lot.

Up to a relatively short time ago, the convention delegate was an easy animal. You gave him a bottle, got him a bed, put on a couple of girlie shows and he couldn't have been happier.

Sophistication levels have risen dramatically. Travel is no longer a novelty. Many people take several vacations a year, know quality in food, hotel accommodations and entertainment. Modern delegates also tend to take life seriously. More and more they want to get their money's worth in terms of information, contacts and other factors that can benefit their careers.

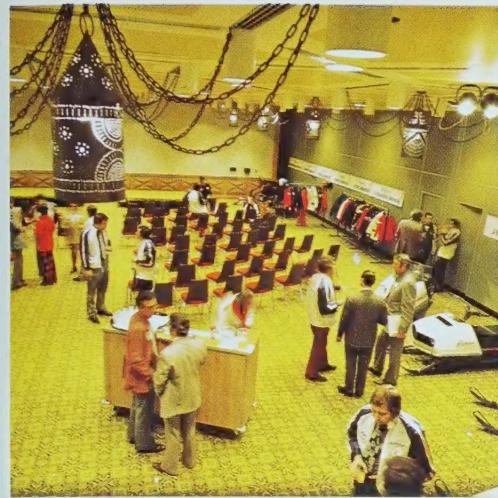
Furthermore, most delegates are seasoned veterans of the convention circuit. An industry study indicated attendance averages around four conventions annually per delegate — or about two weeks out of the year taken to attend various business, industry and professional congresses. And a goodly percentage are flooded with invitations. For example, at any one time, a general practitioner might have a choice of several dozen invitations to conventions on cardiology, pediatrics, geriatrics or on any number of other specialties.

One complaint of professionals in the field is that while sophistication levels

of delegates have risen, those of the majority of convention organizers tend to remain fairly static. The reason: many people charged with responsibility for organizing the events have little prior experience, and often little likelihood of ever getting involved in such undertakings again. Convention chairmen or chairwomen frequently hold their posts for only a year.

Inexperienced organizers tend to be cautious and conservative in their choice of locations as well as in program content and presentation. That is why many conventions have followed undeviating patterns for decades. If a company or association always went to a metropolitan hotel — or a resort — chances are the established practice will be carried on by successive meeting organizers.

Possibly the most horrendous example of tradition perpetuated is a type of meeting staged regularly for over 30 years by one national firm. The company's top people are brought in from across Canada, seated together in a large room, then are given style numbers, sizes, model numbers, prices and delivery dates for the upcoming season's stock at the mind-numbing rate of one item a minute for up to 12 hours a day over a three-day period. At the conclusion, they are each handed a binder containing the identical infor-



An important advantage of the conventional convention is the opportunity to examine new products and exchange ideas, not so easily done by telephone or letter.



New technology is making the use of videotape and closed circuit television available for the not-so-conventional convention.

mation fed to them verbally for three solid days!

Experienced organizers on the whole are more innovative and more attuned to modern communications and motivational techniques. A large company may have a person working full time on the organization of important conferences, conventions and seminars. Similarly, the manager of a major association or group of associations can have responsibility for making annual arrangements, with years of experience built up in the field.

For the complex task of sorting out the details, organizers have help available from hotel and convention centre management people, travel agents and a variety of other sources. A fairly new phenomenon is the emergence of convention consultants, professionals who act as intermediaries between buyers (convention organizers) and sellers (hotels, convention centres, airlines, audio-visual equipment suppliers, etc.).

Here there are similarities with advertising agencies which evolved decades ago because the diversity of media, rates and techniques became too complicated for the non-professional to cope with alone. In a similar way, a convention organizer today is presented with an extensive array of facilities, deals and prices. If he negotiates directly with suppliers, he may have to work with dozens of individuals.

"Convention consultants generally don't get involved in the program content," explained one individual in the field. "What we do say is: 'Let us look after all the physical arrangements and you

concentrate on the other vital half — the program itself.' Of course, we may suggest activities like tours to points of interest for delegates and their wives or special entertainment events such as 'Showboat Nights' or 'Vegas Nights' that we know are easy to put on and are generally successful."

At present, it is a relatively small field. There are not more than 60 fulltime convention consultants in all of North America, though growth of the profession is anticipated in the future. General trends to the contrary, lack of sophistication does sometimes appear among delegates as well. For example, in this day and age, it is inconceivable that anyone should go to a convention without reserving a room in advance. But some do.

"For a major event, like the Rotary International, the organizers effectively book a city," remarked Ian McLeod, convention manager, The Queen Elizabeth Hotel. "It is not unusual for every hotel for miles around to be filled to capacity." So taking your chances on finding accommodations when you arrive can be risky.

Knowledge expansion is one of the prime reasons for staging a convention. It is surprising, therefore, to consider the number of companies that send their people to conventions with no advance information as to what it is about and no direction as to what they are supposed to do when they get there. The attitude is: "The Coal Graders Association is having a convention — you go." The result can be considerable waste of time and money as well as opportunities lost.

The minimum requirement for every prospective delegate is to read the advance publicity. "Good pre-convention publicity will stress what delegates have to gain from their attendance and participation," Ian McLeod stated. "Number one, of course, is information about your industry or profession. It is the most effective way known to get concentrated exposure to top people in your industry. Of almost equal importance are the contacts you can make and the chance that convention attendance gives you to experience a refreshing change of scene."

To capitalize fully on the opportunities, you should develop a strategy for each convention that you or members of your staff plan to attend. Set clear objectives. Determine as far as possible in advance what general types of information you want to obtain — industry trends, customer attitudes and intentions, new products, new processes and so on. Include in the strategy a general plan for expanding contacts with new and established clients — or if more of a professional or technically-orientated affair — with key people in your field.

You might organize your group into a task force, assigning specific responsibilities to various people according to their individual interests and expertise. The assignments could range from "Make a list of all machine tool suppliers at the convention" to "Get to know John Smith of XYZ Industries better."

To sharpen everyone's alertness as well as give you a record for possible future action, ask members of your group to act as reporters, taking notes at the convention and supplying brief reports afterwards, confined to those highlights that impressed each delegate the most. Five or six lines per report should be sufficient.

It is an excellent idea to hold a pre-convention meeting with fellow delegates from your company during which the program can be discussed and general plans formulated. At the minimum, you can be sure that everyone has the dates, times and locations straight as well as check on accommodations, expense money and other basic matters. It is the most obvious details that frequently get overlooked.

Veteran convention goers circulate as a matter of habit to meet as many people as possible. Younger members of your group perhaps should be reminded of this valuable practice. Suggest they try to find different seat mates at the sessions and luncheons, move about at

social events and alternate partners at recreational activities.

Post-convention follow-up is vital as well. Have another task force lined up back at the office to move quickly on requests received for information, courtesy letters to be written and appointments to be made. After the convention, gather all the notes and reports from your group, hold a post-convention discussion, and then summarize the most interesting results in a brief report.

What format should a convention take to stimulate interest and keep issues discussed relevant?

R. G. (Bob) Pringle has some useful experience to recount. He is manager, costing services, CN's Research and Development Department, and is active in the Cost Analysis Organization of the American Association of Railroads.

"We follow a middle course in our programs," Mr. Pringle said. "In the first 90 minutes, we have three half-hour talks to all delegates together followed by 10 minutes of clarification questions. For the balance of the session, we break up into smaller groups of 15 people, each group with a leader."

The speakers move from group to group, staying for a specified time with each group to answer questions and discuss issues brought up in their speeches. Mr. Pringle reported: "Feedback has been excellent. We've found that the fellows are starting to interact between conferences — over the telephone and even getting together between sessions to discuss mutual problems."

Participation? It was clearly best in the workshops. In the full assembly, only five or six might speak up in the question periods; in the smaller groups, virtually everyone participates. To prevent coteries of friends turning up in the same group a different colored card is selected for each delegate as he or she enters the room, automatically splitting up any people who arrive together. Earle A. Farquhar, senior financial accountant at CN and active in the accounting branch of the same association, added that he feels that personal contact and exchange of ideas are at least 60 per cent of the potential value individual delegates obtain from convention participation.

In larger groups where the workshop idea is impractical, modern communications techniques are being used on an increasingly ambitious scale to inject excitement into the proceedings and get complex messages across

quickly and memorably. Slide presentations, film strips and movies have long played a key role.

The medium that is rapidly moving to the forefront is videotape. Equipment rental and purchase costs have come down. In addition, projection of videotaped presentations is simple. It is possible to link playback equipment to virtually any number of TV monitors, so large gatherings present no problems. Most hotels and convention centres can supply whatever number of color or black-and-white TV monitors you need. Eventually super-sized TV screens for single-screen projection to bigger audiences should also be generally adopted by suppliers of convention facilities — when the economics become more favorable.

Brant Ducey is in charge of the audio-visual centre at CN head office in Montreal. "If we were to talk about new trends, I think it will definitely be toward more use of videotape. It has virtually limitless possibilities," said Mr. Ducey. "Programs on any of the other standard audio-visual media — slides, film strips and movies — can be quickly and easily transferred to videotape, sound tracks and all. You can add narrators or chalkboard presentations and expand and modify videotape recording programs at will."

An interesting application is spot "newscasts" and commentary directly from remote locations. For example, a gathering of financial people might be treated to a live report from the stock exchange, summarizing the day's trading. A construction group could get a progress report directly from the site of a major airport being built in the area of the convention. If maintenance problems are being discussed, you could telecast an interview with a maintenance man with tool kit in hand actually working on a repair job. Of course, these could be pre-recorded with equal ease and played back at the convention but the live presentation provides more freshness and immediacy.

The use of videotape is both practical and economical. The "wired city" concept is already a reality. Many telephone companies, Bell Canada for one, can lease you direct lines for video transmission between any number of hotels or other buildings within a city.

Intercity telecasts are technically feasible as well, though present costs are somewhat high. The day should come, however, when it will be generally practical to hold trans-continental conventions, with delegates meeting in several cities simultaneously and individual speakers likewise separated by hundreds of miles. Some international

corporations have already held trans-oceanic conferences via TV satellite.

Future convention facilities are expected to be larger than ever, with the accent on flexibility in their internal arrangements. Notable examples of the trend are the special convention centres built during recent years in Winnipeg, Edmonton and Calgary, making these cities prime contenders for the billion dollar markets represented by the bigger conventions.

"No question, it's big business," observed Reginald K. Groome, general manager of The Queen Elizabeth Hotel. He pointed out that last year tourism, of which conventions formed a major part, exceeded the pulp and paper industry as the largest dollar earner for the province of Quebec.

Movable walls, a feature now offered by a number of hotels, are almost automatically included in any new facility design. In the past, hotels could generally predict their meeting room requirements in terms of size and shape in advance. Older buildings could be constructed with fixed room sizes. But surveys have shown no definite pattern today. There is as much demand for many small rooms as there is for one or two very large rooms and the requirements vary from convention to convention.

Indications are future hotels may have complete convention floors consisting of one huge room with nothing but channels in the ceiling and floor. Adjacent to it will be a massive storage area for the movable walls. You will be able to order meeting rooms in virtually any quantity, shape and size.

Another distinct trend is the popularity of airport hotels, particularly for one-day and two-day meetings. Convenience is the key. A sales manager, for example, can call his sales force from across the country, have them in one day and out the next with minimum time lost and minimum of transportation problems. This seems to be an entirely new market in the field, with little evidence of airport hotels having taken business away from other facilities for certain types of short meetings.

As for convention delegates of the future, continued exposure to electronic media and even greater mobility are bound to make them more sophisticated than ever. Just the same, there will always be at least one person who turns up without a room reservation, and another who discovers the convention he meant to attend is scheduled for the following week. Delegates of the future will unquestionably be smarter, but they'll still be human.

reviews

Canada — the invisible culture

A Nation Unaware, *The Canadian Economic Culture*, by Herschel Hardin, published by J. J. Douglas Ltd., Vancouver. 378 pages. \$10.95.

The Canadian Culture, according to Hardin, is alive and well and has been living all along in our collective enterprises, like the CNR, Air Canada, the old Polymer Corporation and Connaught Laboratories.

It is an invisible culture largely because we have failed to grasp its significance. We have assumed that the economic dimension of our culture was identical with the American, that is, with liberal capitalism. Whereas, Hardin argues, its main thrust since the American revolution has been the assertion of our separateness and our sovereignty through a series of monumental and expensive public works beginning with the Lachine Canal in 1921 and continuing through the canal and railway building eras to the public utilities, the CBC, and other crown corporations as we know them today.

The Canadian ideology is actually rooted in two elements: public enterprise and interregional redistribution — both of which are essentially alien to the American style. Interregional redistribution grew out of the historical necessity of keeping Canada's parts together in a single nation, and has evolved into a basic principle of Canadian federalism.

"To get at the Canadian circumstance, and through it, to identity . . . is above all to see the country in terms of its contradictions — the contending forces that underlie the character of the people." Hardin illustrates the point with examples from the Chinese and American experiences and goes on to identify the Canadian contradictions as: (1) French Canada as against English Canada; (2) the regions as against the federal centre; (3) Canada as against the United States.

In spite of our persistent hand-wringing over these tensions, the problems associated with them are usually worked out constructively, while the web of Canadian identity becomes stronger with the passing of each new crisis.

Hardin uses dozens of examples to illustrate the failure of Canadian private enterprise to live up to its potential, as contrasted with the successful performance of Canadian public enterprises in the fields of invention, design, construction, manufacturing and marketing in both domestic and international markets.

He compares that so-called triumph of private enterprise — the CPR — which had to be bailed out time and time again by the Canadian taxpayer, with the CNR which "in a few years . . . turned this hopeless, costly jumble of steel and unreliable equipment into an aggressive, unified system . . . The CNR's contribution to Canada's economic culture was profound."

Hardin talks about our great entrepreneurs. "We have no John Jacob Astor . . . or Henry Ford, whose legendary activities are part of the national catechism. Canada's great entrepreneurs have been politicians, like Sir John A. Macdonald, Adam Beck and C.D. Howe . . .

"Compare W.A.C. Bennett, the free enterprise hardware merchant with Bennett the builder of a region. It was René Lévesque . . . who gave French Canadians their new entrepreneurial dimension through the extension of Hydro Québec . . . not Armand Bombardier, the inventor of the snowmobile."

Hardin's book will cause academics to squirm, written as it is on a broad canvas and cutting great swaths across the fields of history, cultural anthropology, sociology and philosophy. (The jacket identifies him as a playwright, broadcaster and critic.) Americans will simply not understand it, not being Canadians, but any Canadian who has ever pondered his identity will find it a stimulating book.

J.D.B.

Life after work

How to Enjoy Your Retirement, by John Sunshine, published by Amacom, available from Prentice-Hall of Canada Ltd., Scarborough, Ont. \$8.75. 164 pages.

This is a once-over-lightly on how to plan for retirement, and what to do and not do when you do. Its value may be in getting some pre-retirement people thinking about life after work long before most of us normally do. An authority on aging noted recently: "If we

need 21 years of training to grow up to be adults, we need at least five or 10 years of training to be old, that is, to be old successfully."

While the author of *How to Enjoy . . .* doesn't come forward with a 10 year plan, he does highlight some basic considerations involved in what for most is an abrupt change in lifestyle: "Retirement is a new kind of job, one that requires adjustments as any other new job does . . . You probably had a certain amount of choice in your career, but on this occasion you have no choice. You must accept this new job.

And that means that you will have to adjust to it — or lose the wonderful opportunity retirement offers."

Mr. Sunshine, and his text is as upbeat as his name, purposely avoids medical problems, sex, and the special situations a woman may be confronted with at retirement. What appears to be the most useful part of his book, a series of appendices listing United States sources of further information on pertinent retirement subjects will be of little value to most Canadian readers . . . unless they plan to go camping in American National Parks (there's a list), and will be stopping off at inexpensive motels along the way (there's another list).

J.F.H.

Rush, rush, rush.

Type A Behavior and Your Heart, by Meyer Friedman, M.D. and R. H. Rosenman, M.D. Fawcett Publications Inc., Greenwich, Connecticut, \$1.95, 319 pages.

Maybe you're already tired of the self-help books that are mushrooming at bookstores across the country. But if you're afflicted with the "hurry sickness", this book will give you pause.

It seems illogical that so many medical problems could stem from simply being in a rush to do several things at once, but so the authors claim. And a quick look at the Type A behavior test will tell you whether you should consider changing your priorities, and slow down. Type A is common in business, but the authors suggest it's a no-no. It can lead to coronary heart and coronary artery disease.

Are you a type A? Do you get irritated at delays such as bank queues or traffic jams? Do you feel guilty when you relax and do nothing for several hours? Do you hate to see someone take longer to do a task than you would?

It is possible to change our patterns and this book offers guidelines and actual drills to help us slow down.

W.P.
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Progress at Vanterm

Construction crew works on formwork at Vanterm, new container terminal under construction at Vancouver.